

# 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

Jesse J. Inestroza (Data)  
Telephone: (703) 648-7968  
Fax: (703) 648-7975  
jinestro@usgs.gov

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

## MANGANESE IN DECEMBER 2002

In December, reported consumption of manganese ore containing 35% or manganese, exclusive of that consumed at iron and steel plants, was estimated as 35,200 metric tons (t), which was a 2% increase from that for the previous month, according to the U.S. Geological Survey. The figure for December increases to 37,600 t when estimates for annual respondents are added on the basis of 2002 data. Corresponding industry stocks of ore at the end of the month were 157,000 t, which includes an estimate for annual respondents on the basis of 2002 data. This was decrease of 3% from that of the previous month. (Data for the most recent 13 months are plotted in the graph on page 2.)

Foreign trade data for December will appear in a subsequent report. The data for November tabulated in this report indicate that the total imports for consumption, on manganese content basis, increased by 21% from those for October 2002 (table 1).

Total exports, on a manganese content basis, increased by 48% from those for the previous month.

Brazilian manganese ferroalloy producer Companhia Vale do Rio Doce S.A. (CVRD) completed its acquisition of Elkem ASA's closed Rana, Norway, ferrochrome plant on February 14, 2003 (PR Newswire Europe, Ltd., 2003§<sup>1</sup>). Production at the plant, renamed Rio Doce Manganese Norway, AS, will be converted to manganese ferroalloys by late 2003.

### Internet Reference Cited

PR Newswire Europe, Ltd., 2003 (February 14), CVRD finalises acquisition of Rana, accessed February 26, 2003, at URL <http://www.prnewswire.co.uk>.

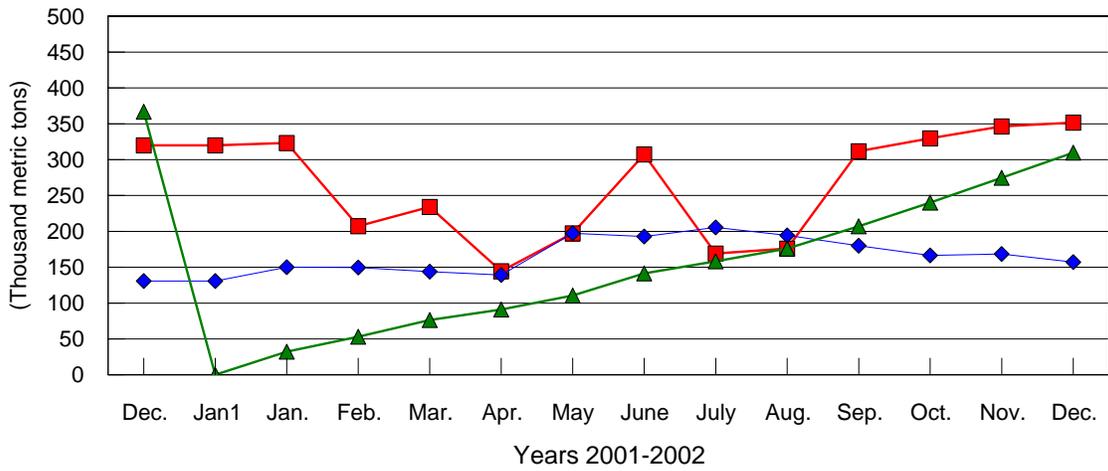
<sup>1</sup>Reference that includes a section twist (§) is found in the Internet Reference Cited section.

### Notice

The U.S. Geological Survey (USGS) will no longer print paper copies of the *Mineral Industry Surveys* for mailing list distribution after release of the December 2002 report. The report will continue to be available on the USGS Web site at URL: <http://minerals.usgs.gov/minerals>.

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Manganese ore: U.S. reported consumption and industry stocks, exclusive of iron and steel plants 1/



■ Monthly consumption times 10   
 ▲ Consumption for year to date  
◆ Stocks, end-of-month

1/ Includes revisions, if any, for months prior to last month shown.

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

(Metric tons, manganese content) 2/

	Imports for consumption			Exports		
	Ore 3/ and dioxide	Ferroalloy and metal	Total	Ore 3/	Ferroalloy and metal	Total
2001:						
November	30,300 4/	15,200 4/	45,500	370	1,520	1,890
January-November	211,000	370,000	582,000	4,270	10,500	14,800
2002:						
January	23,900	42,200	66,100	775	1,050	1,830
February	34,400	29,700	64,000	453	774	1,230
March	19,300	19,000	38,300	401	930	1,330
April	34,600	35,500	70,100	775	919	1,700
May	1,670	16,800	18,500	643	806	1,450
June	36,100 4/	21,100	57,100	774	1,020	1,800
July	23,600 4/	28,700	52,300	876	728	1,600
August	15,000	34,900 4/	49,900	1,380	818	2,200
September	14,600	36,600	51,200	121	1,230	1,360
October	2,590 4/	42,300	44,900	159	680	839
November	8,010	46,500 4/	54,500	665	576	1,240
Total	214,000	353,000	567,000	7,020	9,540	16,600

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

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

3/ Includes concentrates.

4/ All or part of these data have been referred to the U.S. Census Bureau for verification.

Source: U.S. Census Bureau.

TABLE 2  
U.S. IMPORTS FOR CONSUMPTION OF SILICOMANGANESE IN NOVEMBER 2002 1/

(Metric tons, unless otherwise specified)

Source	Gross weight	Mn content	Customs value	Year to date		
				Gross weight	Mn content	Customs value
Australia	907 2/	815 2/	\$423,000 2/	46,900	31,400	\$19,400,000
Brazil	20	14	10,500	23	15	13,500
Canada	--	--	--	419	293	174,000
France	--	--	--	4,000	2,640	1,890,000
Georgia	4,720	3,400	2,340,000	14,600	10,600	7,080,000
India	--	--	--	770	424	446,000
Korea, Republic of	--	--	--	3,000	1,980	1,250,000
Mexico	--	--	--	6,450	4,220	3,100,000
Norway	1,860	1,120	1,140,000	13,100	7,730	7,940,000
Romania	10,200	7,240	4,890,000	22,600	15,400	10,800,000
Russia	--	--	--	4,250	2,850	2,020,000
South Africa	13,300	8,820	6,100,000	110,000	73,300	46,400,000
Spain	499 2/	615 2/	319,000 2/	1,930	1,500	1,240,000
Total	31,500	22,000	15,200,000	228,000	152,000	102,000,000
Total, general imports	31,500	22,000	15,200,000	228,000	152,000	102,000,000

-- Zero.

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

2./ 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 NOVEMBER 2002 1/

(Metric tons, unless otherwise specified)

Source	Gross weight	Mn content	Customs value	Year to date		
				Gross weight	Mn content	Customs value
<b>Low carbon:</b>						
Canada	--	--	--	25	20	\$19,700
China	333 2/	232 2/	\$294,000 2/	2,180	1,960	2,130,000
Japan	108	98	111,000	2,350	1,320	1,720,000
Mexico	20	17	29,000	39	32	54,500
Norway	--	--	--	511	414	388,000
South Africa	--	--	--	4,700	4,320	5,600,000
Spain	1,020	860	748,000	1,060	888	776,000
Total, low carbon	1,480	1,210	1,180,000	10,900	8,940	10,700,000
Total, general imports of low carbon	1,480	1,210	1,180,000	10,900	8,940	10,700,000
<b>Medium carbon, 1%-2% C:</b>						
Austria	--	--	--	120	94	72,900
Brazil	20	15	18,100	1,360	1,090	719,000
China	--	--	--	1,500	1,200	796,000
Japan	--	--	--	22	18	22,900
Korea, Republic of	--	--	--	1,500	1,200	780,000
Mexico	1,620	1,320	1,230,000	5,010	3,970	3,690,000
Norway	--	--	--	2,280	1,780	1,040,000
South Africa	4,690	3,810	2,700,000	22,700	18,400	12,000,000
Spain	--	--	--	652	407	477,000
Total, m.c., 1%-2% C	6,330	5,150	3,950,000	35,100	28,200	19,600,000
Total, general imports of m.c., 1%-2% C	6,330	5,150	3,950,000	35,100	28,200	19,600,000
<b>Medium carbon, 2%-4% C:</b>						
Ukraine	--	--	--	5,890	3,030	2,320,000
Total, general imports of m.c., 2%-4% C	--	--	--	5,890	3,030	2,320,000
<b>High carbon:</b>						
Australia	--	--	--	2,510	1,900	728,000
Austria	--	--	--	99	66	58,600
Brazil	--	--	--	18,300	14,300	7,460,000
Canada	--	--	--	147	124	80,800
France	3,000	2,350	1,290,000	28,600	23,400	10,500,000
India	--	--	--	23,700	18,000	9,610,000
South Africa	14,200 2/	13,500 2/	7,660,000 2/	101,000	81,400	39,700,000
Total, high carbon	17,200	15,800	8,950,000	175,000	139,000	68,100,000
Total, general imports of high carbon	17,200	15,800	8,950,000	175,000	139,000	68,100,000
Grand total	25,000	22,200	14,100,000	226,000	179,000	101,000,000
Grand total, general imports	25,000	22,200	14,100,000	226,000	179,000	101,000,000

-- Zero.

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

2./ 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 OF MANGANESE ORE (20% OR MORE MN) IN NOVEMBER 2002 1/ 2/ 3/

(Metric tons)

Source	20% - 47% Mn		47% or more Mn		Total	
	Gross weight	Mn content	Gross weight	Mn content	Gross weight	Mn content
Australia	--	--	11,900	6,380	11,900	6,380
Belgium	--	--	18	13	18	13
Total	--	--	12,000	6,390	12,000	6,390
Year to date:						
Australia	--	--	34,700	18,400	34,700	18,400
Belgium	--	--	181	128	181	128
Brazil	29,900	12,800	68	68	30,000	12,900
China	--	--	20	20	20	20
France	--	--	10	10	10	10
Gabon	45,100	19,800	187,000	99,600	232,000	119,000
Mexico	2,910	1,100	--	--	2,910	1,100
Morocco	--	--	40	21	40	21
South Africa	--	--	86,500	41,800	86,500	41,800
Total	77,900	33,700	309,000	160,000	387,000	194,000

-- Zero.

1/ Quantities for general imports and imports for consumption are identical.

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

3/ Includes concentrates.

Source: U.S. Census Bureau.

TABLE 5  
U.S. IMPORTS FOR CONSUMPTION OF MANGANESE DIOXIDE AND MANGANESE METAL IN NOVEMBER 2002 1/

(Metric tons, gross weight, unless otherwise specified)

Source	Manganese dioxide				Manganese metal			
	Quantity	Customs value	Year to date		Unwrought		Other	
			Quantity	Customs value	Quantity	Year to date	Quantity	Year to date
Australia	1,370	\$1,880,000	20,500	\$28,100,000	--	--	--	--
Belgium	45	100,000	570	1,030,000	--	--	--	(2/)
Canada	--	--	--	--	--	(2/)	--	16
China	159	165,000	808	959,000	798	5,080	--	113
France	--	--	--	--	--	--	--	43
Germany	4	24,300	72	301,000	145	3,420	--	24
Greece	339	444,000	1,180	1,530,000	--	--	--	--
Hong Kong	--	--	126	129,000	--	--	--	--
Ireland	537	681,000	5,730	7,580,000	--	--	--	--
Japan	(2/)	2,020	1,260	2,080,000	--	--	5	16
Mexico	--	--	25	184,000	--	--	--	--
Netherlands	--	--	91	122,000	--	--	6	73
Poland	--	--	--	--	--	--	--	20
South Africa	245	350,000	2,670	3,850,000	1,270	11,400	--	--
Spain	--	--	--	--	--	148	--	--
United Kingdom	--	--	93	130,000	--	46	--	(2/)
Total	2,700	3,650,000	33,100	46,000,000	2,210	20,100	11	305
Total, general imports	2,700	3,650,000	33,100	46,000,000	2,210	20,100	11	305

-- Zero.

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

2/ Less than 1/2 unit.

Note: Imports for consumption of metallic manganese waste and scrap totaled 38 tons, of which 33 tons was from Canada, and 5 tons was from France, to give a year-to-date total of 2,250 tons.

Source: U.S. Census Bureau.

TABLE 6  
U.S. EXPORTS OF MANGANESE ORE (20% OR MORE MN), FERROMANGANESE,  
SILICOMANGANESE, AND MANGANESE METAL BY COUNTRIES OF DESTINATION IN 2002 1/

(Metric tons, gross weight)

	Manganese ore 2/		Ferromanganese, 2% or less C		Silicomanganese		Manganese metal 3/	
	November	Year to date	November	Year to date	November	Year to date	November	Year to date
Australia	94	249	--	5	--	21	--	--
Belgium	34	34	--	--	--	--	18	502
Brazil	--	151	--	8	4	15	--	5
Canada	259	2,560	275	5,500	24	267	7	170
China	--	1,190	--	--	--	--	--	67
Colombia	--	--	--	--	--	--	--	8
Dominican Republic	--	31	--	--	--	--	--	--
Ecuador	--	--	--	--	--	--	--	1
France	--	--	--	--	--	27	--	--
Germany	259	2,080	--	--	--	--	4	14
Ghana	--	--	--	16	--	--	--	--
Hong Kong	--	18	--	--	--	1	--	1
Indonesia	--	30	--	--	--	4	--	--
Italy	415	1,670	--	--	--	--	--	15
Japan	--	--	21	81	--	--	137	1,020
Korea, Republic of	--	48	--	--	--	--	--	19
Malaysia	--	--	--	--	--	--	--	4
Mexico	--	2,090	--	933	--	67	--	89
Netherlands	--	1,620	--	6	--	8	--	2
Norway	56	513	--	--	--	--	--	3
Poland	195	829	--	--	--	--	--	--
Saudi Arabia	--	--	--	--	--	--	--	20
Singapore	--	--	--	--	--	--	--	(4/)
Spain	--	--	--	--	--	8	--	--
Sri Lanka	--	--	--	--	--	5	--	--
Sweden	19	429	--	--	--	--	35	141
Switzerland	--	99	--	--	--	--	--	--
Taiwan	--	15	--	--	--	--	--	26
Trinidad and Tobago	--	--	--	10	--	20	--	--
Turkey	--	--	--	3	--	--	--	--
United Kingdom	--	265	--	--	--	--	--	(4/)
Venezuela	--	119	--	7	--	--	--	--
Total	1,330	14,000	296	6,570	28	443	201	2,110

-- Zero.

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

2/ Includes concentrates.

3/ Includes manganese-aluminum, some other alloys, and waste and scrap.

4/ Less than 1/2 unit.

Note: Exports of ferromanganese with more than 2% carbon totaled 154 tons, all of which went to Canada, to give a year-to-date total of 2,470 tons.

Source: U.S. Census Bureau.

TABLE 7  
U.S. FOREIGN TRADE IN SELECTED MANGANESE CHEMICALS IN NOVEMBER 2002, BY CLASS 1/

Class	Gross weight (metric tons)	Value 2/ (thousands)	Principal sources and destinations: gross weight (metric tons); value 2/ (thousands)	Year to date		Principal sources and destinations: gross weight (metric tons); value 2/ (thousands)
				Gross weight (metric tons)	Value 2/ (thousands)	
<b>Imports for consumption:</b>						
Manganese oxides other than dioxide	37	\$61	Japan 17; \$49	2,020	\$2,030	Mexico 1,160; \$399
Sulfates, basket category, including manganese sulfate	1,000	968	Mexico 322; \$241	33,900	19,400	Mexico 15,200; \$7,890
Potassium permanganate	112	217	Czech Republic 76; \$148	1,420	2,500	Czech Republic 658; \$1,270
Manganites, manganates, and other permanganates	--	--	XX	240	855	Germany 166; \$790
<b>Exports:</b>						
Manganese dioxide	190	209	Canada 64; \$25	3,290	3,540	Canada 1,740; \$601
Manganese oxides other than dioxide	458	448	Canada 233; \$87	5,030	5,240	Canada 3,050; \$1,200
Sulfates, basket category, including manganese sulfate	1,580	727	Canada 1,330; \$380	17,900	10,100	Canada 14,900; \$4,480
Potassium permanganate	205	361	Spain 123; \$253	1,060	2,000	Spain 438; \$822
Manganites, manganates, and other permanganates	8	32	Taiwan 3; \$18	178	914	Japan 93; \$455

XX Not applicable. -- Zero.

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

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

Source: U.S. Census Bureau.