

# Mineral Industry Surveys

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## MANGANESE IN NOVEMBER 2017

Preliminary data for November 2017 indicated that domestic consumption of manganese ore containing more than 20% manganese, exclusive of that consumed at iron and steel plants, was 32,000 metric tons (t) (gross weight). This was 8% more than the revised amount consumed in October 2017 (29,600 t) (fig. 1). Manganese ore consumption during the first 11 months of 2017 was 365,000 t, which was 6% less the amount consumed during the same period in 2016. Industry stocks of ore at the end of November 2017 were estimated to be 164,000 t, 5% more than the revised amount at the end of October 2017 (156,000 t).

On a gross-weight basis, U.S. imports of manganese ore in November 2017 were 3,400 t, down from 69,500 t in October 2017 (fig. 1, table 5).

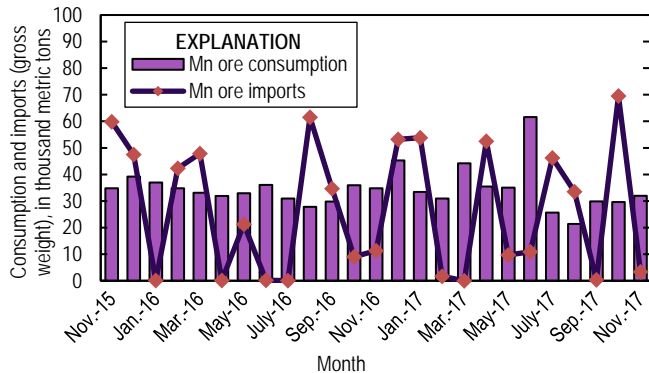


Figure 1. Monthly domestic consumption and imports of manganese (Mn) ore from November 2015 through November 2017. Sources: U.S. Census Bureau and U.S. Geological Survey.

In November 2017, the average monthly spot-market prices for manganese ore deliveries to China decreased compared to those in October 2017. The average spot prices were 5.42 dollars per metric ton unit, 36%–39% grade, and 6.37 dollars per metric ton unit, 44% grade (fig. 2, table 1). Compared to November 2016, they were 5% less for the 36%–39% grade and slightly less for the 44% grade and about 163% and 164% more than those of November 2015, respectively. However, they were 27% and 23% less, respectively, than the 2-year-high prices of December 2016.

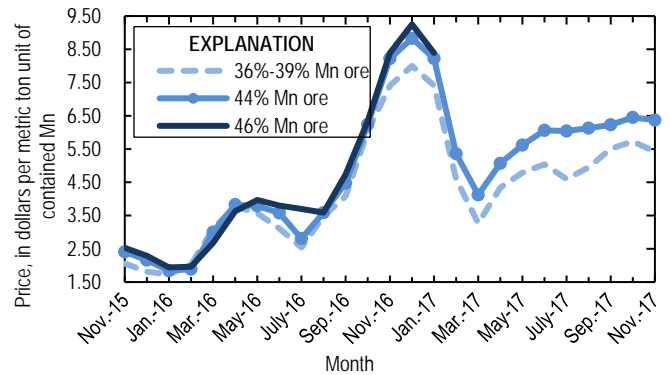


Figure 2. Average monthly spot prices for manganese (Mn) ore delivered to China from November 2015 through November 2017. Source: CRU Group.

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TABLE 1  
 PRICES FOR MANGANESE FERROALLOYS, METAL, AND ORE IN NOVEMBER 2017

		Low	Average	High
<b>Manganese ferroalloys:<sup>1</sup></b>				
High-carbon ferromanganese, 75% manganese	dollars per long ton of contained manganese	1,480.00	1,527.00	1,600.00
Medium-carbon ferromanganese, 85% manganese	cents per pound of contained manganese	110.00	112.50	115.00
Silicomanganese, 65% manganese	do.	60.00	61.90	64.00
Manganese metal, 99.9% manganese flake <sup>2</sup>	cents per pound	102.00	104.89	108.00
<b>Manganese ore:<sup>3,4</sup></b>				
36%–39% manganese	dollars per metric ton unit contained manganese	5.00	5.42	5.75
44% manganese	do.	6.00	6.37	6.60

do. Ditto.

<sup>1</sup>Platts Metals Week; in U.S. warehouse; average prices reported for all transactions during the month.

<sup>2</sup>CRU Ryan's Notes North American transaction prices, electrolytic manganese metal flake, 99.99% manganese, free-on-board producing point or Chicago/Pittsburgh warehouse; Average prices reported for the price range.

<sup>3</sup>CRU Ryan's Notes, cost and freight, China; average prices reported for the price range.

<sup>4</sup>To determine dollars per metric ton of ore (gross weight), multiply the manganese content percentage by the price; that is, by 44 when the manganese content is 44%.

TABLE 2  
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
<b>2016:</b>						
November	5,970	30,700	36,700 <sup>r</sup>	17 <sup>r</sup>	1,170 <sup>r</sup>	1,180 <sup>r</sup>
January–November	117,000 <sup>r</sup>	351,000 <sup>r</sup>	468,000 <sup>r</sup>	247 <sup>r</sup>	12,300 <sup>r</sup>	12,500 <sup>r</sup>
<b>2017:</b>						
January	27,700	33,200	60,900	9	901	910
February	1,120	20,500	21,600	15	2,020	2,040
March	477	21,600	22,100	28	2,160	2,180
April	42,300	59,500	102,000	10	1,990	2,000
May	5,030	53,300	58,400	43	1,240	1,280
June	10,300	44,800	55,100	139	905	1,040
July	27,800	57,300	85,100	120	411	531
August	18,100	46,900	65,000	145	1,430	1,580
September	610	49,700	50,300	5	1,080	1,090
October	31,200	63,900	95,200	25	1,890	1,920
November	1,960	31,500	33,400	26	1,400	1,420
January–November	167,000	482,000	649,000	566	15,400	16,000

<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 3  
U.S. IMPORTS FOR CONSUMPTION OF SILICOMANGANESE IN NOVEMBER 2017<sup>1</sup>

(Metric tons)

Source	Gross weight	Mn content	Customs value <sup>3</sup>	January–November <sup>2</sup>		
				Gross weight	Mn content	Customs value <sup>3</sup>
Australia	9,110	6,050	\$11,600,000	60,000	39,800	\$79,000,000
Brazil	--	--	--	2,130	1,400	2,240,000
Canada	--	--	--	76	36	48,600
France	--	--	--	2,300	1,390	3,680,000
Georgia	606	436	634,000	90,000	66,600	89,300,000
India	216	127	320,000	5,840	3,460	8,750,000
Italy	--	--	--	189	112	257,000
Malaysia	--	--	--	10,100	6,680	11,800,000
Mexico	--	--	--	25,000	15,800	25,800,000
Norway	20	12	39,900	15,300	9,240	23,200,000
Russia	2	2	2,870	18,100	12,300	22,500,000
Saudi Arabia	--	--	--	14,700	9,310	16,300,000
South Africa	--	--	--	67,700	44,000	70,200,000
Spain	134	88	146,000	14,800	9,710	19,400,000
Total	10,100	6,710	12,700,000	326,000	220,000	372,000,000

-- Zero.

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

<sup>2</sup>May include revised data that are not broken out by specific month(s).

<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 4  
U.S. IMPORTS FOR CONSUMPTION OF FERROMANGANESE IN NOVEMBER 2017<sup>1</sup>

(Metric tons)

Source	Gross weight	Mn content	Customs value <sup>3</sup>	January–November <sup>2</sup>		
				Gross weight	Mn content	Customs value <sup>3</sup>
<b>Low carbon:</b>						
Belgium	--	--	--	24	23	\$56,900
China	--	--	--	7,890	7,350	15,400,000
France	--	--	--	3,300	2,680	5,410,000
Germany	18	15	\$46,500	323	301	798,000
Japan	--	--	--	15	12	34,800
Korea, Republic of	1,300	1,200	2,550,000	9,100	8,130	17,900,000
Mexico	--	--	--	2,150	1,750	2,860,000
Norway	--	--	--	27,100	22,000	46,400,000
Russia	--	--	--	24	23	56,900
Saudi Arabia	--	--	--	5	4	8,590
South Africa	--	--	--	216	201	403,000
Total	1,320	1,220	2,590,000	50,100	42,400	89,400,000
<b>Medium carbon, 1%–2% C:</b>						
China	--	--	--	45	34	115,000
France	--	--	--	400	324	625,000
Germany	--	--	--	1	1	2,180
Korea, Republic of	5,410	4,330	8,240,000	22,300	17,900	33,800,000
Mexico	123	95	301,000	2,840	2,200	5,060,000
Norway	--	--	--	18,600	15,100	29,200,000
South Africa	1,260	1,030	2,400,000	18,400	14,800	32,100,000
Total	6,800	5,450	10,900,000	62,600	50,400	101,000,000
<b>High carbon:</b>						
Australia	14,300	11,000	20,200,000	65,800	47,000	80,800,000
Brazil	1,310	623	1,470,000	5,190	3,570	5,800,000
Canada	3	1	4,210	177	117	271,000
Georgia	--	--	--	2,400	1,860	2,230,000
Germany	--	--	--	3	2	3,710
India	378	286	443,000	2,550	1,890	3,240,000
Malaysia	866	660	1,090,000	9,740	7,360	12,600,000
Mexico	4	3	5,940	268	191	223,000
Netherlands	--	--	--	344	265	373,000
Norway	--	--	--	1,640	1,280	1,780,000
Russia	--	--	--	5,980	4,570	5,770,000
Saudi Arabia	82	62	111,000	5,540	4,160	6,920,000
South Africa	3,200	2,440	4,780,000	59,500	45,300	78,800,000
Spain	--	--	--	17,600	13,400	20,800,000
Ukraine	1,640	1,250	1,690,000	15,700	12,000	16,500,000
United Kingdom	--	--	--	3	2	3,980
Total	21,800	16,300	29,700,000	192,000	143,000	236,000,000
Grand total	29,900	23,000	43,300,000	305,000	236,000	426,000,000

-- Zero.

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

<sup>2</sup>May include revised data that are not broken out by specific month(s).

<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 ORE (20% OR MORE Mn) IN NOVEMBER 2017<sup>1</sup>

(Metric tons)

Source	Gross weight	Mn content	Customs value <sup>3</sup>	January–November <sup>2</sup>		
				Gross weight	Mn content	Customs value <sup>3</sup>
More than 20%, but less than 47% manganese:						
Cote d'Ivoire	--	--	--	332	133	\$19,800
Gabon	--	--	--	13,100	5,640	2,390,000
Mexico	--	--	--	13,200	5,100	2,480,000
South Africa	--	--	--	33,000	13,200	6,250,000
Total	--	--	--	59,600	24,100	11,100,000
47% or more manganese:						
Australia	3,010	1,430	\$3,390,000	20,400	9,770	8,340,000
Brazil	53	26	37,200	625	340	412,000
Gabon	--	--	--	190,000	123,000	45,700,000
Georgia	--	--	--	122	88	138,000
Korea, Republic of	--	--	--	20	14	12,800
Mexico	--	--	--	8,410	4,020	2,260,000
Morocco	39	35	41,400	187	135	245,000
South Africa	300	146	128,000	2,430	1,190	801,000
Total	3,400	1,640	3,600,000	222,000	138,000	57,900,000
Grand total	3,400	1,640	3,600,000	282,000	162,000	69,100,000

-- Zero.

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

<sup>2</sup>May include revised data that are not broken out by specific month(s).

<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 DIOXIDE IN NOVEMBER 2017<sup>1</sup>

(Metric tons, gross weight)

Source	Quantity	Customs value <sup>3</sup>	January–November <sup>2</sup>	
			Quantity	Customs value <sup>3</sup>
Belgium	--	--	74	\$266,000
Brazil	--	--	52	77,500
Canada	--	--	3	3,380
China	15	\$26,100	80	136,000
Germany	--	--	89	176,000
India	--	--	35	64,600
Japan	512	1,140,000	6,460	13,700,000
Morocco	--	--	19	86,600
Netherlands	--	--	22	38,100
Singapore	--	--	79	107,000
Spain	--	--	12	20,500
Ukraine	14	23,400	74	125,000
Total	542	1,190,000	7,000	14,800,000

-- Zero.

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

<sup>2</sup>May include revised data that are not broken out by specific month(s).

<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 7  
U.S. IMPORTS FOR CONSUMPTION OF MANGANESE METAL IN NOVEMBER 2017<sup>1</sup>

(Metric tons)

Source	Gross weight	Customs value <sup>3</sup>	January–November <sup>2</sup>	
			Gross weight	Customs value <sup>3</sup>
<b>Unwrought flake:</b>				
China	885	\$1,300,000	7,330	\$12,300,000
Gabon	--	--	200	356,000
Hong Kong	--	--	50	96,300
Japan	61	218,000	440	2,260,000
Mexico	--	--	50	148,000
South Africa	204	466,000	5,170	12,300,000
Total	1,150	1,990,000	13,200	27,500,000
<b>Unwrought powder:</b>				
China	--	--	199	391,000
Mexico	29	102,000	224	755,000
South Africa	76	213,000	1,520	4,170,000
Total	105	315,000	1,940	5,320,000
<b>Unwrought, other:</b>				
Belgium	--	--	38	78,900
China	394	692,000	8,450	15,900,000
Germany	34	70,100	1,390	2,870,000
Japan	--	--	(4)	2,210
Portugal	--	--	(4)	5,100
Russia	--	--	24	50,100
South Africa	--	--	601	1,280,000
Spain	--	--	46	90,500
Total	428	762,000	10,500	20,300,000
<b>Other manganese, wrought:</b>				
Canada	--	--	22	6,520
China	(4)	2,790	(4)	2,790
Germany	7	73,200	211	2,300,000
India	--	--	(4)	2,110
Japan	--	--	4	30,400
Malaysia	--	--	(4)	3,650
Mexico	90	234,000	207	548,000
South Africa	--	--	10	19,400
Sweden	8	66,900	8	66,900
United Kingdom	(4)	2,730	(4)	2,730
Total	105	380,000	462	2,990,000
<b>Metallic waste and scrap:</b>				
Canada	--	--	740	195,000
China	--	--	36	60,100
Mexico	--	--	3	3,210
United Kingdom	--	--	2	5,530
Total	--	--	780	264,000
Grand total	1,790	3,450,000	27,000	56,300,000

-- Zero.

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

<sup>2</sup>May include revised data that are not broken out by specific month(s).

<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.

<sup>4</sup>Less than ½ unit.

Source: U.S. Census Bureau.



TABLE 8  
U.S. EXPORTS OF MANGANESE ORE (20% OR MORE Mn), FERROMANGANESE, SILICOMANGANESE,  
AND MANGANESE METAL BY COUNTRIES OR LOCALITY OF DESTINATION IN NOVEMBER 2017<sup>1,2</sup>

Source	Gross weight (metric tons)	F.a.s. <sup>4</sup> value (thousands)	January–November <sup>3</sup>	
			Gross weight (metric tons)	F.a.s. <sup>4</sup> value (thousands)
<b>Ore and concentrates with 20% or more manganese:</b>				
Belgium	--	--	449	\$458
Canada	27	\$24	47	43
China	--	--	48	61
Germany	--	--	205	168
Mexico	9	6	48	47
Netherlands	16	69	254	1,000
Poland	--	--	18	22
Switzerland	--	--	4	3
Taiwan	--	--	(5)	6
United Kingdom	--	--	59	43
<b>Total</b>	<b>53</b>	<b>99</b>	<b>1,130</b>	<b>1,850</b>
<b>Ferromanganese:</b>				
<b>2% or less carbon:</b>				
Canada	60	92	4,810	7,580
Chile	--	--	35	66
China	1	3	13	20
Other (7 countries)	3	5	55	113
<b>Total</b>	<b>64</b>	<b>99</b>	<b>4,910</b>	<b>7,780</b>
<b>More than 2% carbon:</b>				
Canada	541	821	2,880	4,400
Mexico	100	91	377	417
Singapore	--	--	10	28
United Kingdom	--	--	14	42
Other (9 countries)	1	4	44	130
<b>Total</b>	<b>643</b>	<b>916</b>	<b>3,330</b>	<b>5,020</b>
<b>Silicomanganese:</b>				
Canada	647	863	7,620	10,700
Georgia	--	--	128	120
United Kingdom	--	--	4	6
<b>Total</b>	<b>647</b>	<b>863</b>	<b>7,760</b>	<b>10,800</b>
<b>Metal, including alloys and waste and scrap:<sup>6</sup></b>				
Belgium	--	--	16	303
Canada	34	102	74	219
Costa Rica	3	32	16	205
India	--	--	985	643
Japan	--	--	92	316
Malaysia	297	158	2,050	999
Mexico	6	30	188	727
Pakistan	--	--	93	72
Other (16 countries)	71	21	291	1,050
<b>Total</b>	<b>411</b>	<b>343</b>	<b>3,810</b>	<b>4,540</b>
<b>Grand total</b>	<b>1,820</b>	<b>2,320</b>	<b>20,900</b>	<b>30,000</b>

-- Zero.

<sup>1</sup>Presentation of monthly data is based on the "January–November" quantities of the leading countries.

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

<sup>3</sup>May include revised data that are not broken out by specific month(s).

<sup>4</sup>Free alongside ship.

<sup>5</sup>Less than ½ unit.

<sup>6</sup>Includes manganese-aluminum, other alloys, and waste and scrap.

Source: U.S. Census Bureau.

TABLE 9  
U.S. FOREIGN TRADE IN SELECTED MANGANESE CHEMICALS  
IN NOVEMBER 2017, BY CLASS<sup>1</sup>

Class	Gross weight (metric tons)	Value <sup>3</sup> (thousands)	Principal sources and destinations: gross weight (metric tons); value <sup>3</sup> (thousands)	January–November <sup>2</sup>		
				Gross weight (metric tons)	Value <sup>3</sup> (thousands)	Principal sources and destinations: gross weight (metric tons); value <sup>3</sup> (thousands)
<b>Imports for consumption:</b>						
Manganese oxides other than dioxide	3,520	\$2,980	South Africa 1,740; \$1,180	24,300	\$18,200	South Africa 13,000; \$7,130
Manganites, manganates, and other permanganates	(4)	6	Canada (4); \$6	(4)	18	Canada (4); \$18
Potassium permanganate	121	294	India 90; \$233	860	2,140	India 795; \$2,010
Sodium permanganate	114	260	China 96; \$214	1,260	2,870	China 1,100; \$2,500
Sulfates, basket category, including manganese sulfate	5,000	3,540	China 2,230; \$1,460	60,800	46,200	China 23,900; \$17,100
<b>Exports:</b>						
Manganese dioxide	721	1,000	Canada 582; \$463	5,270	8,400	Canada 2,860; \$2,540
Manganese oxides other than dioxide	219	562	Canada 78; \$173	5,930	10,900	Canada 1,130; \$1,660
Manganites, manganates, and other permanganates	1	3	Canada 1; \$3	87	373	Canada 83; \$170
Potassium permanganate	1,150	351	Belgium 435; \$200	8,460	3,030	Belgium 4,000; \$1,690
Sodium permanganate	42	140	Mexico 42; \$140	672	2,170	Belgium 317; \$672
Sulfates, basket category, including manganese sulfate	1,850	2,220	Canada 1,440; \$732	19,400	23,400	Canada 13,800; \$7,070

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

<sup>2</sup>May include revised data that are not broken out by specific month(s).

<sup>3</sup>For imports, customs value; for exports, free alongside ship value.

<sup>4</sup>Less than ½ unit.

Source: U.S. Census Bureau.