

Mineral Industry Surveys

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MANGANESE IN JUNE 2017

Preliminary data for June 2017 indicated that domestic consumption of manganese ore containing more than 20% manganese, exclusive of that consumed at iron and steel plants, was 31,600 metric tons (t) (gross weight). This was 10% less than the revised amount consumed in May 2017 (35,000 t) (fig. 1). Manganese ore consumption during the first 6 months of 2017 was 211,000 t, which was slightly more the amount consumed during the same period in 2016. Industry stocks of ore at the end of June 2017 were 117,000 t, 4% less than the revised amount at the end of May 2017 (123,000 t).

On a gross-weight basis, U.S. imports of manganese ore in June 2017 were 10,900 t, down from 9,710 in May 2017 (fig. 1, table 5).

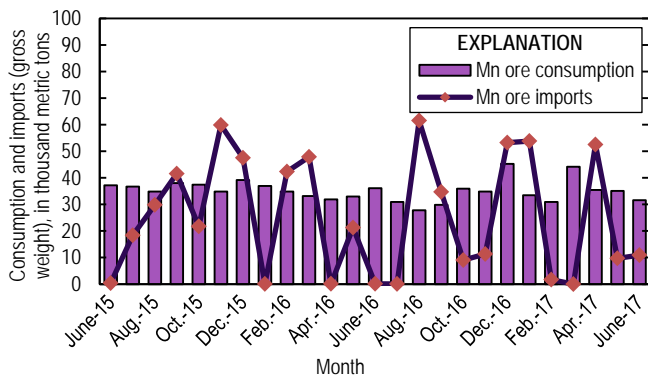


Figure 1. Monthly domestic consumption and imports of manganese (Mn) ore from June 2015 through June 2017. Includes revisions to prior months' data. Sources: U.S. Census Bureau and U.S. Geological Survey.

In June 2017, the average monthly spot-market prices for manganese ore deliveries to China increased compared to those

in May 2017. The average spot prices were 5.04 dollars per metric ton unit, 36%–39% grade and 6.06 dollars per metric ton unit, 44% grade (fig. 2, table 1). They were also higher than those in June 2016—62% for the 36%–39% grade and 69% for the 44% grade—and about 89% to 107% more than those of June 2015, respectively. However, they were 37% and 31% less, respectively, than the 2-year high prices of December 2016.

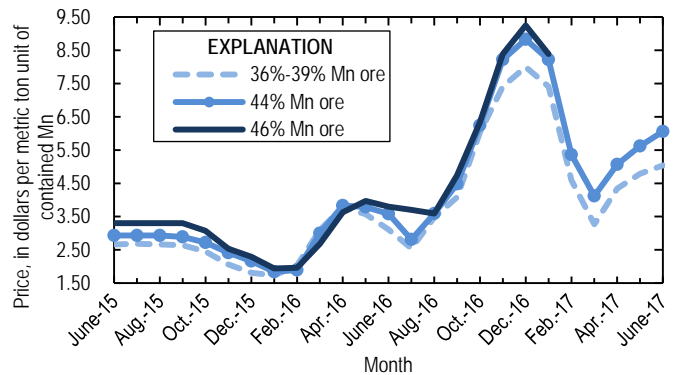


Figure 2. Average monthly spot prices for manganese (Mn) ore delivered to China from June 2015 through June 2017. Source: CRU Group.

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

| | | Low | Average | High |
|---|---|----------|----------|----------|
| <u>Manganese ferroalloys:¹</u> | | | | |
| High-carbon ferromanganese, 75% manganese | dollars per long ton of contained manganese | 1,450.00 | 1,478.75 | 1,520.00 |
| Medium-carbon ferromanganese, 85% manganese | cents per pound of contained manganese | 110.00 | 111.00 | 112.00 |
| Silicomanganese, 65% manganese | do. | 64.00 | 65.25 | 69.00 |
| Manganese metal, 99.9% manganese flake ² | cents per pound | 110.00 | 112.50 | 115.00 |
| <u>Manganese ore:^{3, 4}</u> | | | | |
| 36%–39% manganese | dollars per metric ton unit contained manganese | 4.60 | 5.04 | 5.25 |
| 44% manganese | do. | 5.50 | 6.06 | 6.25 |

do. Ditto.

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

²CRU 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.

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

⁴To 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 MANGANESE¹

(Metric tons, manganese content)²

| | Imports for consumption | | | Exports | | |
|--------------|-------------------------|----------------------|----------------------|---------|----------------------|--------------------|
| | Ore and dioxide | Ferroalloy and metal | Total | Ore | Ferroalloy and metal | Total |
| 2016: | | | | | | |
| June | 324 | 47,600 ^r | 48,000 ^r | 34 | 1,060 ^r | 1,090 ^r |
| January–June | 59,600 ^r | 208,000 ^r | 268,000 ^r | 133 | 7,930 ^r | 8,060 ^r |
| 2017: | | | | | | |
| 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 |
| January–June | 86,900 | 233,000 | 320,000 | 245 | 9,210 | 9,460 |

^rRevised.

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

²As 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 JUNE 2017¹

(Metric tons)

| Source | Gross weight | Mn content | Customs value ³ | January–June ² | | |
|--------------|--------------|------------|----------------------------|---------------------------|------------|----------------------------|
| | | | | Gross weight | Mn content | Customs value ³ |
| Australia | -- | -- | -- | 28,200 | 18,700 | \$37,300,000 |
| Brazil | 405 | 263 | \$423,000 | 405 | 263 | 423,000 |
| France | -- | -- | -- | 2,300 | 1,390 | 3,680,000 |
| Georgia | 1,830 | 1,350 | 2,150,000 | 40,500 | 29,000 | 37,400,000 |
| India | 1,490 | 887 | 2,060,000 | 3,030 | 1,800 | 4,150,000 |
| Italy | 189 | 112 | 257,000 | 189 | 112 | 257,000 |
| Malaysia | -- | -- | -- | 5,210 | 3,420 | 6,300,000 |
| Mexico | 2,010 | 1,320 | 2,380,000 | 18,800 | 11,700 | 18,300,000 |
| Norway | 3,040 | 1,860 | 4,640,000 | 8,190 | 4,930 | 12,100,000 |
| Russia | -- | -- | -- | 8,910 | 5,980 | 11,400,000 |
| Saudi Arabia | 114 | 51 | 125,000 | 114 | 51 | 125,000 |
| South Africa | 16,900 | 11,000 | 18,600,000 | 48,200 | 31,300 | 49,400,000 |
| Spain | -- | -- | -- | 7,140 | 4,650 | 8,600,000 |
| Total | 26,000 | 16,800 | 30,700,000 | 171,000 | 113,000 | 190,000,000 |

-- Zero.

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

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

³Customs 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 JUNE 2017¹

(Metric tons)

| Source | Gross weight | Mn content | Customs value ³ | January–June ² | | |
|--------------------------------|--------------|------------|----------------------------|---------------------------|------------|----------------------------|
| | | | | Gross weight | Mn content | Customs value ³ |
| Low carbon: | | | | | | |
| Belgium | 24 | 23 | \$56,900 | 24 | 23 | \$56,900 |
| China | 775 | 724 | 1,580,000 | 4,050 | 3,770 | 7,640,000 |
| France | -- | -- | -- | 3,300 | 2,680 | 5,410,000 |
| Germany | 29 | 27 | 69,100 | 171 | 164 | 425,000 |
| Japan | -- | -- | -- | 15 | 12 | 34,800 |
| Korea, Republic of | 2,740 | 2,430 | 5,330,000 | 4,640 | 4,090 | 9,230,000 |
| Mexico | 178 | 141 | 244,000 | 956 | 772 | 1,210,000 |
| Norway | 2,100 | 1,700 | 3,660,000 | 13,900 | 11,300 | 23,800,000 |
| South Africa | 54 | 51 | 101,000 | 135 | 126 | 251,000 |
| Total | 5,900 | 5,100 | 11,000,000 | 27,200 | 22,900 | 48,100,000 |
| Medium carbon, 1%–2% C: | | | | | | |
| China | -- | -- | -- | 45 | 34 | 115,000 |
| France | -- | -- | -- | 400 | 324 | 625,000 |
| Germany | -- | -- | -- | 1 | 1 | 2,180 |
| Korea, Republic of | 2,510 | 2,010 | 3,430,000 | 9,890 | 7,910 | 15,000,000 |
| Mexico | 274 | 207 | 545,000 | 1,290 | 975 | 2,420,000 |
| Norway | 1,300 | 1,070 | 2,140,000 | 7,400 | 6,030 | 11,800,000 |
| South Africa | 1,910 | 1,540 | 3,680,000 | 10,200 | 8,160 | 16,400,000 |
| Total | 5,990 | 4,820 | 9,800,000 | 29,200 | 23,400 | 46,400,000 |
| High carbon: | | | | | | |
| Australia | -- | -- | -- | 29,400 | 19,200 | 32,300,000 |
| Brazil | 459 | 350 | 495,000 | 1,080 | 811 | 1,020,000 |
| Canada | 40 | 25 | 46,700 | 125 | 84 | 195,000 |
| Georgia | -- | -- | -- | 2,400 | 1,860 | 2,230,000 |
| Germany | -- | -- | -- | 3 | 2 | 3,710 |
| Malaysia | 5,080 | 3,800 | 7,050,000 | 6,080 | 4,560 | 8,170,000 |
| Mexico | -- | -- | -- | 261 | 186 | 212,000 |
| Norway | -- | -- | -- | 36 | 30 | 65,400 |
| Russia | 892 | 681 | 839,000 | 3,970 | 3,030 | 3,860,000 |
| South Africa | 14,200 | 10,900 | 19,100,000 | 35,700 | 27,100 | 45,100,000 |
| Spain | -- | -- | -- | 2,900 | 2,190 | 3,160,000 |
| Ukraine | -- | -- | -- | 812 | 622 | 748,000 |
| Total | 20,700 | 15,700 | 27,600,000 | 82,800 | 59,700 | 97,000,000 |
| Grand total | 32,600 | 25,700 | 48,400,000 | 139,000 | 106,000 | 191,000,000 |

-- Zero.

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

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

³Customs 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 JUNE 2017¹

(Metric tons)

| Source | Gross weight | Mn content | Customs value ³ | January–June ² | | |
|--|--------------|------------|----------------------------|---------------------------|------------|----------------------------|
| | | | | Gross weight | Mn content | Customs value ³ |
| More than 20%, but less than 47% manganese, South Africa | -- | -- | -- | 11,000 | 5,100 | \$2,220,000 |
| 47% or more manganese: | | | | | | |
| Australia | -- | -- | -- | 7,390 | 3,550 | 1,930,000 |
| Brazil | 160 | 80 | \$132,000 | 466 | 261 | 301,000 |
| Gabon | 10,500 | 9,660 | 2,140,000 | 107,000 | 74,500 | 24,700,000 |
| Georgia | 122 | 88 | 138,000 | 122 | 88 | 138,000 |
| Korea, Republic of | -- | -- | -- | 20 | 14 | 12,800 |
| Mexico | -- | -- | -- | 1,410 | 706 | 513,000 |
| Morocco | 36 | 22 | 50,900 | 110 | 66 | 153,000 |
| South Africa | 100 | 49 | 42,600 | 1,100 | 542 | 245,000 |
| Total | 10,900 | 9,900 | 2,510,000 | 118,000 | 79,700 | 28,000,000 |
| Grand total | 10,900 | 9,900 | 2,510,000 | 129,000 | 84,800 | 30,200,000 |

-- Zero.

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

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

³Customs 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 JUNE 2017¹

(Metric tons, gross weight)

| Source | Quantity | Customs value ³ | January–June ² | |
|-------------|----------|----------------------------|---------------------------|----------------------------|
| | | | Quantity | Customs value ³ |
| Belgium | -- | -- | 42 | \$133,000 |
| Brazil | -- | -- | 18 | 20,500 |
| Canada | -- | -- | 3 | 3,380 |
| China | -- | -- | 61 | 95,100 |
| Germany | -- | -- | 21 | 59,200 |
| India | -- | -- | 35 | 64,600 |
| Japan | 656 | \$1,400,000 | 3,190 | 6,640,000 |
| Netherlands | -- | -- | 22 | 38,100 |
| Singapore | -- | -- | 79 | 107,000 |
| Ukraine | -- | -- | 19 | 32,400 |
| Total | 656 | 1,400,000 | 3,490 | 7,190,000 |

-- Zero.

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

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

³Customs 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 JUNE 2017¹

(Metric tons)

| Source | Gross weight | Customs value ³ | January–June ² | |
|----------------------------------|--------------|----------------------------|---------------------------|----------------------------|
| | | | Gross weight | Customs value ³ |
| Unwrought flake: | | | | |
| China | 774 | \$1,450,000 | 3,150 | \$5,910,000 |
| Gabon | -- | -- | 200 | 356,000 |
| Hong Kong | -- | -- | 50 | 96,300 |
| Japan | 44 | 216,000 | 194 | 1,060,000 |
| Mexico | -- | -- | 20 | 63,900 |
| South Africa | 432 | 984,000 | 3,680 | 8,830,000 |
| Total | 1,250 | 2,650,000 | 7,300 | 16,300,000 |
| Unwrought powder: | | | | |
| China | -- | -- | 80 | 183,000 |
| Mexico | 27 | 86,100 | 131 | 451,000 |
| South Africa | 120 | 332,000 | 897 | 2,450,000 |
| Total | 147 | 418,000 | 1,110 | 3,080,000 |
| Unwrought, other: | | | | |
| Belgium | 19 | 41,300 | 38 | 78,900 |
| China | 683 | 1,330,000 | 3,750 | 7,720,000 |
| Germany | 26 | 59,200 | 521 | 1,070,000 |
| Japan | (4) | 2,210 | (4) | 2,210 |
| Portugal | -- | -- | (4) | 5,100 |
| South Africa | -- | -- | 408 | 853,000 |
| Spain | -- | -- | 46 | 90,500 |
| Total | 727 | 1,440,000 | 4,770 | 9,810,000 |
| Other manganese, wrought: | | | | |
| Germany | 25 | 275,000 | 110 | 1,140,000 |
| India | -- | -- | (4) | 2,110 |
| Japan | -- | -- | 3 | 14,000 |
| Malaysia | -- | -- | (4) | 3,650 |
| Mexico | 36 | 93,600 | 62 | 169,000 |
| South Africa | -- | -- | 10 | 19,400 |
| Total | 61 | 369,000 | 186 | 1,350,000 |
| Metallic waste and scrap: | | | | |
| Canada | 128 | 19,500 | 290 | 68,400 |
| Mexico | -- | -- | 3 | 3,210 |
| United Kingdom | -- | -- | 2 | 5,530 |
| Total | 128 | 19,500 | 294 | 77,100 |
| Grand total | 2,310 | 4,890,000 | 13,700 | 30,600,000 |

-- Zero.

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

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

³Customs 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.

⁴Less 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 OF DESTINATION IN JUNE 2017^{1,2}

| Source | Gross weight (metric tons) | F.a.s. ⁴ value (thousands) | January-June ³ | |
|---|-------------------------------|---|-------------------------------|---|
| | | | Gross weight (metric tons) | F.a.s. ⁴ value (thousands) |
| Ore and concentrates with 20% or more manganese: | | | | |
| China | -- | -- | 48 | \$61 |
| Germany | 205 | \$168 | 205 | 168 |
| Mexico | 9 | 6 | 25 | 29 |
| Netherlands | 24 | 76 | 135 | 558 |
| Poland | -- | -- | 18 | 22 |
| United Kingdom | 39 | 26 | 59 | 43 |
| Total | 278 | 275 | 489 | 880 |
| Ferromanganese: | | | | |
| 2% or less carbon: | | | | |
| Canada | -- | -- | 2,190 | 3,740 |
| Chile | -- | -- | 35 | 66 |
| Korea, Republic of | -- | -- | (5) | 5 |
| Mexico | -- | -- | 3 | 6 |
| Other (5 countries) | -- | -- | 32 | 66 |
| Total | -- | -- | 2,260 | 3,880 |
| More than 2% carbon: | | | | |
| Argentina | -- | -- | 8 | 23 |
| Brazil | -- | -- | 21 | 59 |
| Canada | 222 | 383 | 2,020 | 3,050 |
| Mexico | -- | -- | 125 | 180 |
| Singapore | -- | -- | 5 | 15 |
| United Kingdom | -- | -- | 9 | 27 |
| Other (5 countries) | -- | -- | 12 | 36 |
| Total | 222 | 383 | 2,200 | 3,390 |
| Silicomanganese: | | | | |
| Canada | 291 | 415 | 4,540 | 6,380 |
| Georgia | -- | -- | 128 | 120 |
| United Kingdom | 4 | 6 | 4 | 6 |
| Total | 295 | 421 | 4,680 | 6,510 |
| Metal, including alloys and waste and scrap:⁶ | | | | |
| Belgium | -- | -- | 16 | 303 |
| Canada | 5 | 23 | 15 | 52 |
| China | 6 | 103 | 85 | 582 |
| Costa Rica | -- | -- | 6 | 111 |
| India | 69 | 21 | 689 | 512 |
| Japan | -- | -- | 66 | 227 |
| Malaysia | 445 | 137 | 1,360 | 514 |
| Mexico | 9 | 120 | 165 | 545 |
| Pakistan | -- | -- | 93 | 72 |
| Other (10 countries) | -- | -- | 117 | 240 |
| Total | 535 | 402 | 2,610 | 3,160 |
| Grand total | 1,330 | 1,480 | 12,200 | 17,800 |

-- Zero.

¹Presentation of monthly data is based on the "January-June" quantities of the leading countries.

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

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

⁴Free alongside ship.

⁵Less than ½ unit.

⁶Includes manganese-aluminum, other alloys, and waste and scrap.

Source: U.S. Census Bureau.

TABLE 9
U.S. FOREIGN TRADE IN SELECTED MANGANESE CHEMICALS
IN JUNE 2017, BY CLASS¹

| Class | Gross weight (metric tons) | Value ³ (thousands) | Principal sources and destinations: gross weight (metric tons); value ³ (thousands) | January–June ² | | |
|--|-------------------------------|-----------------------------------|---|-------------------------------|-----------------------------------|---|
| | | | | Gross weight (metric tons) | Value ³ (thousands) | Principal sources and destinations: gross weight (metric tons); value ³ (thousands) |
| Imports for consumption: | | | | | | |
| Manganese oxides other than dioxide | 2,400 | \$1,780 | South Africa 1,520; \$838 | 12,200 | \$8,610 | South Africa 7,150; \$3,600 |
| Manganites, manganates, and other permanganates | (4) | 3 | Canada (4); \$3 | (4) | 12 | Canada (4); \$12 |
| Potassium permanganate | 37 | 92 | India 37; \$92 | 292 | 729 | India 275; \$689 |
| Sodium permanganate | 94 | 194 | China 57; \$109 | 467 | 1,050 | China 342; \$754 |
| Sulfates, basket category, including manganese sulfate | 7,410 | 5,310 | China 2,540; \$2,290 | 31,600 | 26,300 | China 11,600; \$8,790 |
| Exports: | | | | | | |
| Manganese dioxide | 337 | 743 | Canada 175; \$165 | 2,680 | 4,360 | Canada 1,190; \$1,100 |
| Manganese oxides other than dioxide | 778 | 1,170 | Belgium 205; \$141 | 3,850 | 6,890 | Netherlands 588; \$581 |
| Manganites, manganates, and other permanganates | 17 | 36 | Canada 16; \$31 | 44 | 263 | Canada 41; \$81 |
| Potassium permanganate | 288 | 806 | Belgium 161; \$387 | 1,460 | 4,000 | Belgium 721; \$1,730 |
| Sodium permanganate | 39 | 131 | Mexico 19; \$78 | 281 | 915 | Belgium 187; \$396 |
| Sulfates, basket category, including manganese sulfate | 1,580 | 2,620 | Canada 830; \$484 | 10,500 | 12,700 | Canada 7,520; \$3,870 |

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

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

³For imports, customs value; for exports, free alongside ship value.

⁴Less than ½ unit.

Source: U.S. Census Bureau.