

Mineral Industry Surveys

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MANGANESE IN SEPTEMBER 2001

In September, reported consumption of manganese ore containing 35% or more manganese, exclusive of that consumed at iron and steel plants, was 33,200 metric tons (t), which was just slightly less than that for the previous month, according to the U.S. Geological Survey. This brought the year-to-date total to 268,000 t. The figures for September increase to 35,600 t and 292,000 t, respectively, when estimates for annual respondents are added on the basis of 2000 data. Corresponding industry stocks of ore at the end of the month were estimated as 178,000 t, which includes an estimate for annual respondents on the basis of 2000 data. This was a decrease of about 15% compared with the corresponding figure for stocks at the end of August, for the second consecutive month of a significant stock decrease.

Data for domestic consumption and stocks of manganese ferroalloys and metal will appear in a subsequent monthly report.

Foreign trade data for September will appear in a subsequent report. The data for August tabulated in this report indicate that the number of units of manganese received as ferromanganese was the greatest since June 2000. Those from South Africa

accounted for more than 60% of the August total. **Note:** For early availability, the trade data appearing in this report were placed on MINES FaxBack in preliminary form as of October 24. The FaxBack document number for the preliminary September trade data will be 420209.

The Defense National Stockpile Center of the Defense Logistics Agency, U.S. Department of Defense, reported no cash disposals of manganese materials from the National Defense Stockpile in September. This was the fourth consecutive month that no disposals were reported.

The history, geology, mines, and numerous minerals of the Val Graveglia manganese district east of Genoa in northwestern Italy are discussed in a recent article (Marchesini and Pagano, 2001). The article contains a number of color photographs of minerals found there.

Reference Cited

Marchesini, Marco, and Pagano, Renato, 2001, The Val Graveglia manganese district, Liguria, Italy: *Mineralogical Record*, v. 32, no. 5, September-October, p. 349-379, 415.

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

(Metric tons, manganese content) 2/

| | Imports for consumption | | | Exports | | |
|----------------|-------------------------|----------------------|---------|---------|----------------------|-------|
| | Ore and dioxide | Ferroalloy and metal | Total | Ore | Ferroalloy and metal | Total |
| 2000: | | | | | | |
| August | 21,200 | 44,700 | 65,800 | 438 | 652 | 1,090 |
| January-August | 186,000 | 363,000 | 550,000 | 2,270 | 6,780 | 9,040 |
| 2001: | | | | | | |
| January | 23,400 3/ | 35,100 | 58,400 | 185 | 1,830 | 2,020 |
| February | 11,900 | 25,400 | 37,300 | 723 3/ | 383 | 1,110 |
| March | 24,600 3/ | 24,300 3/ | 48,900 | 425 | 645 | 1,070 |
| April | 23,100 | 34,800 | 57,900 | 138 | 630 | 768 |
| May | 28,600 3/ | 45,700 | 74,300 | 267 | 967 | 1,230 |
| June | 11,100 | 32,000 | 43,100 | 200 | 655 | 855 |
| July | 30,600 | 35,600 3/ | 66,200 | 349 | 635 | 984 |
| August | 22,300 3/ | 45,800 | 68,100 | 1,040 | 713 | 1,750 |
| Total | 176,000 | 279,000 | 454,000 | 3,320 | 6,460 | 9,780 |

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/ 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 AUGUST 2001 1/

(Metric tons, unless otherwise specified)

| Source | Gross weight | Mn content | Customs value | Year to date | | |
|------------------------|--------------|------------|---------------|--------------|------------|---------------|
| | | | | Gross weight | Mn content | Customs value |
| Australia | 3,220 | 2,120 | \$1,380,000 | 35,800 | 23,700 | \$14,200,000 |
| Canada | 76 | 44 | 18,000 | 243 | 161 | 56,500 |
| India | -- | -- | -- | 38,600 | 24,800 | 15,300,000 |
| Japan | -- | -- | -- | 10 | 46 | 23,800 |
| Kazakhstan | 6,000 | 4,160 | 2,500,000 | 32,300 | 22,100 | 13,700,000 |
| Lithuania | -- | -- | -- | 4,000 | 2,710 | 1,720,000 |
| Mexico | 120 | 76 | 61,200 | 8,340 | 5,450 | 3,910,000 |
| Norway | -- | -- | -- | 8,400 | 5,100 | 4,850,000 |
| Romania | 6,820 | 4,470 | 3,250,000 | 6,820 | 4,470 | 3,250,000 |
| South Africa | 4,960 | 3,280 | 1,980,000 | 56,200 | 38,400 | 22,100,000 |
| Spain | -- | -- | -- | 600 | 371 | 407,000 |
| Venezuela | -- | -- | -- | 1,500 | 960 | 615,000 |
| Total | 21,200 | 14,200 | 9,190,000 | 193,000 | 128,000 | 80,200,000 |
| Total, general imports | 21,200 | 14,200 | 9,190,000 | 193,000 | 128,000 | 80,200,000 |

-- Zero.

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

Source: U.S. Census Bureau.

TABLE 3
U.S. IMPORTS FOR CONSUMPTION OF FERROMANGANESE IN AUGUST 2001 1/

(Metric tons, unless otherwise specified)

| Source | Gross weight | Mn content | Customs value | Year to date | | |
|-----------------------------------------|--------------|------------|---------------|--------------|------------|---------------|
| | | | | Gross weight | Mn content | Customs value |
| Low carbon: | | | | | | |
| Canada | -- | -- | -- | 36 | 29 | \$19,400 |
| China | 304 | 267 | \$334,000 | 1,310 | 1,360 | 1,380,000 |
| Italy | 192 | 163 | 171,000 | 1,430 | 1,230 | 1,270,000 |
| Japan | -- | -- | -- | 1 | 31 | 22,100 |
| Mexico | -- | -- | -- | 2,010 | 1,610 | 1,490,000 |
| Netherlands | -- | -- | -- | 21 | 17 | 18,700 |
| Norway | -- | -- | -- | 1,250 | 1,010 | 1,050,000 |
| South Africa | 1,850 | 1,550 | 1,310,000 | 5,040 | 4,360 | 4,550,000 |
| Total, low carbon | 2,350 | 1,980 | 1,820,000 | 11,100 | 9,660 | 9,780,000 |
| Total, general imports of low carbon | 2,350 | 1,980 | 1,820,000 | 11,100 | 9,660 | 9,780,000 |
| Medium carbon, 1%-2% C: | | | | | | |
| Brazil | -- | -- | -- | 20 | 15 | 20,700 |
| China | -- | -- | -- | 3,800 | 3,040 | 2,260,000 |
| France | -- | -- | -- | 39 | 31 | 22,700 |
| Germany | -- | -- | -- | 11 | 8 | 6,090 |
| Mexico | 84 | 64 | 76,300 | 10,100 | 8,090 | 6,950,000 |
| Norway | 1,080 | 888 | 557,000 | 2,110 | 1,730 | 1,110,000 |
| South Africa | 5,570 | 4,480 | 3,140,000 | 18,400 | 14,900 | 11,600,000 |
| Spain | -- | -- | -- | 700 | 568 | 536,000 |
| Total, m.c., 1%-2% C | 6,730 | 5,430 | 3,770,000 | 35,200 | 28,400 | 22,500,000 |
| Total, general imports of m.c., 1%-2% C | 6,730 | 5,430 | 3,770,000 | 35,200 | 28,400 | 22,500,000 |
| Medium carbon, 1%-2% C: | | | | | | |
| Ukraine | 1,360 | 1,020 | 538,000 | 1,360 | 1,020 | 538,000 |
| High carbon: | | | | | | |
| Australia | -- | -- | -- | 20,500 | 15,800 | 7,400,000 |
| Brazil | -- | -- | -- | 3,980 | 3,070 | 1,470,000 |
| Canada | 82 | 61 | 45,200 | 99 | 75 | 54,800 |
| France | 11,000 | 8,640 | 4,100,000 | 39,500 | 31,200 | 15,800,000 |
| Germany | -- | -- | -- | 9 | 7 | 3,060 |
| India | -- | -- | -- | 3,480 | 2,640 | 1,320,000 |
| South Africa | 16,000 | 12,400 | 5,560,000 | 57,500 | 44,700 | 20,900,000 |
| Total, high carbon | 27,000 | 21,100 | 9,710,000 | 125,000 | 97,400 | 46,900,000 |
| Total, general imports of high carbon | 27,000 | 21,100 | 9,710,000 | 125,000 | 97,400 | 46,900,000 |
| Grand total | 37,500 | 29,500 | 15,800,000 | 173,000 | 136,000 | 79,700,000 |
| Grand total, general imports | 37,500 | 29,500 | 15,800,000 | 173,000 | 136,000 | 79,700,000 |

-- Zero.

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

Source: U.S. Census Bureau.

TABLE 4
U.S. IMPORTS OF MANGANESE ORE (20% OR MORE Mn) IN AUGUST 2001 1/ 2/

(Metric tons)

| Source | 20% - 47% Mn | | 47% or more Mn | | Total | |
|---------------|--------------|------------|----------------|------------|--------------|------------|
| | Gross weight | Mn content | Gross weight | Mn content | Gross weight | Mn content |
| China | -- | -- | 20 3/ | 20 3/ | 20 | 20 |
| Gabon | -- | -- | 34,700 | 20,400 | 34,700 | 20,400 |
| Morocco | -- | -- | 20 | 11 | 20 | 11 |
| Total | -- | -- | 34,700 | 20,400 | 34,700 | 20,400 |
| Year to date: | | | | | | |
| Australia | -- | -- | 18,000 | 9,440 | 18,000 | 9,440 |
| Brazil | 7,700 | 3,460 | -- | -- | 7,700 | 3,460 |
| China | -- | -- | 20 | 20 | 20 | 20 |
| Gabon | 14,300 | 6,310 | 204,000 | 124,000 | 219,000 | 130,000 |
| Mexico | 4,520 | 1,720 | -- | -- | 4,520 | 1,720 |
| Morocco | -- | -- | 40 | 21 | 40 | 21 |
| South Africa | 11,600 | 4,160 | 26,600 | 12,500 | 38,100 | 16,700 |
| Total | 38,100 | 15,700 | 249,000 | 146,000 | 287,000 | 161,000 |

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

Source: U.S. Census Bureau.

TABLE 5
U.S. IMPORTS FOR CONSUMPTION OF MANGANESE DIOXIDE AND MANGANESE METAL IN AUGUST 2001 1/

(Metric tons, gross weight, unless otherwise specified)

| Source | Manganese dioxide | | | | Manganese metal | | | |
|------------------------|-------------------|---------------|----------|---------------|-----------------|--------------|----------|--------------|
| | Quantity | Year to date | | Unwrought | | Other | | |
| | | Customs value | Quantity | Customs value | Quantity | Year to date | Quantity | Year to date |
| Australia | 1,670 | \$2,380,000 | 12,400 | \$18,900,000 | -- | -- | 10 | 15 |
| Belgium | 18 | 42,100 | 327 | 511,000 | -- | -- | -- | -- |
| Canada | -- | -- | -- | -- | -- | -- | -- | 2 |
| China | 54 | 55,000 | 867 | 856,000 | 539 | 2,340 | -- | 86 |
| France | -- | -- | -- | -- | -- | -- | 5 | 34 |
| Germany | 8 | 42,800 | 48 | 187,000 | 226 | 1,430 | -- | 18 |
| Greece | -- | -- | 563 | 728,000 | -- | -- | -- | -- |
| India | -- | -- | 1 | 3,130 | -- | -- | 56 | 282 |
| Ireland | 761 | 1,020,000 | 4,770 | 6,500,000 | -- | -- | -- | -- |
| Japan | 18 | 66,900 | 297 | 672,000 | -- | -- | -- | 6 |
| Malaysia | -- | -- | -- | -- | -- | -- | -- | 5 |
| Mexico | -- | -- | -- | -- | -- | -- | -- | 69 |
| Morocco | -- | -- | 1 | 2,530 | -- | -- | -- | -- |
| Netherlands | -- | -- | -- | -- | -- | -- | 18 | 42 |
| Russia | -- | -- | -- | -- | -- | -- | -- | 385 |
| South Africa | 633 | 877,000 | 4,230 | 5,910,000 | 1,170 | 8,320 | -- | -- |
| Spain | -- | -- | -- | -- | 95 | 469 | -- | -- |
| United Kingdom | -- | -- | 6 | 11,000 | -- | 149 | (2/) | (2/) |
| Total | 3,160 | 4,480,000 | 23,500 | 34,300,000 | 2,030 | 12,700 | 88 | 943 |
| Total, general imports | 3,160 | 4,480,000 | 23,500 | 34,300,000 | 2,030 | 12,600 | 89 | 984 |

-- 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: No imports for consumption of metallic manganese were reported, to give a year-to-date total of 597 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 2001 1/

(Metric tons, gross weight)

| | Manganese ore | | Ferromanganese, 2% or less C | | Silicomanganese | | Manganese metal 2/ | |
|--------------------|---------------|--------------|---------------------------------|--------------|-----------------|--------------|--------------------|--------------|
| | August | Year to date | August | Year to date | August | Year to date | August | Year to date |
| Australia | -- | 89 | -- | -- | 3 | 21 | -- | 2 |
| Barbados | -- | 21 | -- | -- | -- | -- | -- | -- |
| Belgium | -- | -- | -- | -- | -- | -- | -- | 56 |
| Brazil | 23 | 69 | -- | -- | -- | 15 | -- | -- |
| Canada | 1,430 | 3,200 | 307 | 1,690 | 20 | 334 | 1 | 26 |
| Chad | -- | -- | -- | -- | -- | -- | 1 | 1 |
| Chile | -- | 3 | -- | -- | -- | -- | -- | 6 |
| Finland | -- | -- | -- | -- | -- | -- | -- | 36 |
| France | -- | -- | -- | -- | -- | 4 | -- | 29 |
| Germany | -- | 414 | -- | -- | -- | -- | -- | 60 |
| Hong Kong | -- | 21 | -- | -- | -- | -- | -- | 1 |
| Ireland | -- | 137 | -- | -- | -- | -- | -- | -- |
| Israel | 106 | 233 | -- | -- | -- | -- | -- | -- |
| Italy | 226 | 486 | -- | -- | -- | -- | 7 | 8 |
| Japan | -- | -- | -- | 21 | -- | -- | 74 | 365 |
| Korea, Republic of | -- | -- | -- | -- | -- | -- | 1 | 11 |
| Mexico | 16 | 76 | 33 | 149 | -- | 2,380 | 19 | 170 |
| Netherlands | 86 | 86 | -- | -- | 8 | 37 | -- | 199 |
| Norway | -- | 139 | -- | -- | -- | -- | -- | -- |
| Saudi Arabia | -- | 21 | -- | -- | -- | -- | -- | -- |
| Singapore | -- | -- | -- | 4 | -- | -- | -- | -- |
| Spain | -- | -- | -- | -- | -- | 8 | -- | -- |
| Sweden | 186 | 243 | -- | -- | -- | -- | -- | 54 |
| Switzerland | -- | 48 | -- | -- | -- | -- | -- | -- |
| Taiwan | -- | 80 | -- | -- | -- | -- | 16 | 16 |
| United Kingdom | -- | 1,270 | -- | -- | -- | -- | -- | -- |
| Venezuela | -- | 16 | 3 | -- | -- | -- | -- | -- |
| Total | 2,070 | 6,650 | 343 | 1,860 | 31 | 2,800 | 119 | 1,040 |

-- Zero.

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

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

Note: Exports of ferromanganese with more than 2% carbon totaled 383 tons, all of which went to Canada, to give a year-to-date total of 2,660 tons.

Source: U.S. Census Bureau.

TABLE 7
U.S. FOREIGN TRADE IN SELECTED MANGANESE CHEMICALS IN AUGUST 2001, 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 | | |
|-----------------------------------------------------------|-------------------------------|-------------------------|-----------------------------------------------------------------------------------------------|-------------------------------|-------------------------|-----------------------------------------------------------------------------------------------|
| | | | | Gross weight (metric tons) | Value 2/ (thousands) | Principal sources and destinations: gross weight (metric tons); value 2/ (thousands) |
| <u>Imports for consumption:</u> | | | | | | |
| Manganese oxides other than dioxide | 134 | \$135 | Mexico 90; \$25 | 1,000 | \$1,070 | Mexico 512; \$148 |
| Sulfates, basket category, including manganese sulfate | 4,010 | 1,520 | China 2,760; \$640 | 21,300 | 12,000 | China 9,170; \$3,650 |
| Potassium permanganate | 118 | 230 | Czech Republic 82; \$161 | 1,150 | 2,240 | Czech Republic 602; \$1,180 |
| Manganites, manganates, and other permanganates | 17 | 112 | Germany 17; \$112 | 69 | 280 | China 34; \$35 |
| <u>Exports:</u> | | | | | | |
| Manganese dioxide | 329 | 1,150 | Canada 91; \$28 | 3,070 | 4,740 | Canada 1,260; \$492 |
| Manganese oxides other than dioxide | 558 | 511 | Canada 214; \$85 | 4,640 | 5,400 | Canada 1,780; \$708 |
| Sulfates, basket category, including manganese sulfate | 1,910 | 1,030 | Canada 1,450; \$389 | 19,000 | 12,600 | Canada 15,100; \$3,720 |
| Potassium permanganate | 21 | 538 | Taiwan 10; \$21 | 841 | 1,840 | Spain 365; \$668 |
| Manganites, manganates, and other permanganates | 47 | 126 | Nicaragua 37; \$67 | 306 | 1,830 | Mexico 81; \$778 |

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.