

Mineral Industry Surveys

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SILICON IN MAY 2002

In May, domestic shipments and production of silicon ferroalloys plus metal, excluding silvery pig iron, were estimated to have decreased by about 14% and 8%, respectively, compared with the revised corresponding figures for the previous month, according to the U.S. Geological Survey. The revisions included an increase of about 90 metric tons (t) in silicon metal production and a decrease of about 3,400 t in ferrosilicon shipments, as previously reported for April. Total producer stocks were estimated to have increased by about 1%. All data for ferrosilicon have been combined to avoid disclosing company proprietary data.

The April trade data included in this report indicated that the volume of silicon metal imports increased by 92% compared with that of March 2002, owing primarily to a substantial increase of silicon metal imports in the trade category "other silicon." Total ferrosilicon imports, on a gross weight basis, decreased by about 2% from those in the previous month. The volume of ferrosilicon and silicon metal exports increased by about 30% and 6%, respectively, compared to those in the previous month. The trade data for May were unavailable at the time of publication and will be included in a subsequent report.

In May, the International Trade Administration (ITA) issued

amended final results of antidumping administrative review of silicon imports from Brazil. The revised duty margins, for the period of investigation July 1, 1994, through June 30, 1995, were as follows: RIMA Industrial S/A, 81.61%; Camargo Correa Metais, 35.23%; Eletrosilex, 13.18%; and Companhia Ferroligas Minas Gerais-Minasligas, 9.68% (U.S. International Trade Administration, 2002).

Australian Silicon Ltd. assumed complete ownership control of the Australian Silicon Project (ASP) in Lithgow, New South Wales, by acquiring Doral Mineral Industries Ltd.'s 10% share in the project for \$A1.4 million. Australian Silicon Ltd. also signed a 20-year supply agreement for carbon reductant (Ryan's Notes, 2002).

References Cited

- Ryan's Notes, 2002, No shortage of silicon projects: Ryan's Notes, v. 8, no. 19, May 13, p. 2.
U.S. International Trade Administration, 2002, Silicon metal from Brazil—Amended final results of antidumping duty administrative review in accordance with court decision: Federal Register, v. 67, no. 96, May 17, p. 35099-35100.

Prices, cents per pound, silicon content

| | <u>50% Ferrosilicon¹</u> | <u>75% Ferrosilicon²</u> | <u>Silicon Metal²</u> |
|--------|-------------------------------------|-------------------------------------|----------------------------------|
| May 1 | 34.0-36.0 | 29.5-30.5 | 50.0-52.0 |
| May 8 | 34.0-36.0 | 29.5-30.5 | 50.0-52.0 |
| May 15 | 36.0-38.0 | 29.5-30.5 | 50.0-52.0 |
| May 22 | 37.0-40.0 | 30.0-31.5 | 50.0-52.0 |
| May 29 | 37.0-40.0 | 30.0-31.5 | 50.0-52.0 |

¹Source: Ryan's Notes, North American transaction price.

²Source: Platts Metals Week, dealer import price.

TABLE 1
U.S. PRODUCTION, SHIPMENTS, AND PRODUCER STOCKS OF SILICON ALLOYS AND METAL IN 2002 1/ 2/ 3/

(Metric tons)

| Material | Gross production 4/ | | Net shipments | | Stocks, May 31 |
|-------------------------------|---------------------|--------------|---------------|--------------|-------------------|
| | May | Year to date | May | Year to date | |
| Ferrosilicon: | | | | | |
| All grades 5/ 6/ | 21,000 | 113,000 | 16,700 | 82,200 | 55,600 |
| Silicon metal: | | | | | |
| Excludes semiconductor grades | 9,760 | 49,200 | 6,860 | 43,000 | 6,110 |

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

2/ Includes U.S. Geological Survey estimates.

3/ Data for silvery pig iron (less than 25% silicon) withheld to avoid disclosing company proprietary data.

4/ Includes in-plant consumption, as in production of magnesium ferrosilicon and other miscellaneous alloys.

5/ Ferrosilicon categories were aggregated to avoid disclosing company proprietary data.

6/ Includes miscellaneous silicon alloys.

TABLE 2
U.S. EXPORTS OF FERROSILICON AND SILICON METAL IN APRIL 2002 1/ 2/

(Metric tons, unless otherwise specified)

| Country | Gross weight | Contained weight | Value | Year to date | | |
|----------------------------------|--------------|------------------|------------|--------------|------------------|------------|
| | | | | Gross weight | Contained weight | Value |
| Ferrosilicon: | | | | | | |
| More than 55% silicon: | | | | | | |
| Canada | 266 | 159 | \$193,000 | 1,320 | 795 | \$927,000 |
| Malaysia | -- | -- | -- | 16 | 13 | 27,400 |
| Mexico | 7 | 4 | 6,230 | 95 | 57 | 104,000 |
| Total | 273 | 164 | 200,000 | 1,440 | 865 | 1,060,000 |
| Other ferrosilicon: | | | | | | |
| Australia | 72 | 23 | 70,400 | 141 | 57 | 174,000 |
| Canada | 474 | 237 | 301,000 | 1,640 | 818 | 1,010,000 |
| China | -- | -- | -- | 48 | 24 | 13,100 |
| Germany | -- | -- | -- | 16 | 9 | 27,700 |
| Ghana | -- | -- | -- | 17 | 6 | 6,470 |
| Italy | -- | -- | -- | 33 | 17 | 52,600 |
| Japan | 336 | 30 | 717,000 | 336 | 30 | 717,000 |
| Korea, Republic of | 57 | 29 | 59,200 | 550 | 275 | 814,000 |
| Malaysia | 36 | 14 | 43,200 | 54 | 23 | 64,500 |
| Mexico | 27 | 14 | 42,500 | 193 | 96 | 229,000 |
| Other (5 countries) | 2 | 1 | 3,800 | 47 | 25 | 55,600 |
| Total | 1,000 | 348 | 1,240,000 | 3,070 | 1,380 | 3,160,000 |
| Total ferrosilicon | 1,280 | 511 | 1,440,000 | 4,510 | 2,250 | 4,220,000 |
| Metal: | | | | | | |
| More than 99.99% silicon: | | | | | | |
| China | 30 | XX | 1,200,000 | 162 | XX | 4,640,000 |
| France | 12 | XX | 316,000 | 29 | XX | 694,000 |
| Germany | 30 | XX | 1,290,000 | 110 | XX | 4,970,000 |
| Italy | 11 | XX | 1,020,000 | 31 | XX | 2,750,000 |
| Japan | 324 | XX | 15,900,000 | 967 | XX | 48,300,000 |
| Korea, Republic of | 69 | XX | 2,560,000 | 168 | XX | 6,690,000 |
| Malaysia | 9 | XX | 1,850,000 | 22 | XX | 4,610,000 |
| Norway | 39 | XX | 983,000 | 144 | XX | 3,500,000 |
| Taiwan | 12 | XX | 400,000 | 29 | XX | 1,000,000 |
| Ukraine | 14 | XX | 340,000 | 33 | XX | 820,000 |
| Other (32 countries) | 25 | XX | 2,520,000 | 102 | XX | 8,040,000 |
| Total | 574 | 574 e/ | 28,400,000 | 1,800 | 1,800 e/ | 86,100,000 |
| 99.00% - 99.99% silicon: | | | | | | |
| Belgium | -- | -- | -- | 23 | 22 | 32,000 |
| Brazil | 2 | 2 | 3,150 | 40 | 39 | 55,900 |
| Denmark | 13 | 12 | 17,700 | 57 | 57 | 80,500 |
| Japan | -- | -- | -- | 10 | 10 | 32,300 |
| Korea, Republic of | -- | -- | -- | 20 | 20 | 28,600 |
| Mexico | 25 | 25 | 35,400 | 104 | 103 | 172,000 |
| Netherlands Antilles | 17 | 17 | 23,900 | 31 | 31 | 44,400 |
| Norway | -- | -- | -- | 121 | 120 | 171,000 |
| Sweden | -- | -- | -- | 19 | 19 | 26,500 |
| United Kingdom | -- | -- | -- | 13 | 12 | 21,300 |
| Other (4 countries) | 4 | 4 | 11,200 | 22 | 22 | 47,800 |
| Total | 61 | 60 | 91,300 | 459 | 455 | 713,000 |

See footnotes at end of table.

TABLE 2--Continued
U.S. EXPORTS OF FERROSILICON AND SILICON METAL IN APRIL 2002 1/ 2/

(Metric tons, unless otherwise specified)

| Country | Gross weight | Contained weight | Value | Year to date | | |
|----------------------|--------------|------------------|------------|--------------|------------------|------------|
| | | | | Gross weight | Contained weight | Value |
| Metal--Continued: | | | | | | |
| Other silicon: | | | | | | |
| Canada | 106 | 103 | \$130,000 | 470 | 457 | \$583,000 |
| Denmark | 34 | 33 | 44,900 | 34 | 33 | 44,900 |
| Germany | 6 | 6 | 7,720 | 78 | 75 | 102,000 |
| Hong Kong | -- | -- | -- | 123 | 119 | 167,000 |
| Japan | 78 | 76 | 103,000 | 208 | 202 | 274,000 |
| Korea, Republic of | 57 | 56 | 82,200 | 154 | 150 | 307,000 |
| Malaysia | -- | -- | -- | 31 | 30 | 41,400 |
| Mexico | 92 | 90 | 150,000 | 412 | 400 | 808,000 |
| Taiwan | -- | -- | -- | 67 | 65 | 88,900 |
| United Kingdom | -- | -- | -- | 91 | 88 | 218,000 |
| Other (15 countries) | 31 | 30 | 35,400 | 154 | 150 | 250,000 |
| Total | 404 | 393 | 554,000 | 1,820 | 1,770 | 2,880,000 |
| Total silicon metal | 1,040 | 1,030 | 29,100,000 | 4,080 | 4,020 | 89,600,000 |

e/ Estimated. XX Not applicable. -- Zero.

1/ Presentation of monthly data is based on the year-to-date quantities (gross weight) of the top ten countries.

2/ 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 FERROSILICON AND SILICON METAL IN APRIL 2002 1/ 2/

(Metric tons, unless otherwise specified)

| Country | Gross weight | Contained weight | Value | Year to date | | |
|--------------------------------|--------------|------------------|-----------|--------------|------------------|------------|
| | | | | Gross weight | Contained weight | Value |
| Ferrosilicon: | | | | | | |
| 55% - 80% silicon, over 3% Ca: | | | | | | |
| Argentina | -- | -- | -- | 28 | 17 | \$39,700 |
| Brazil | -- | -- | -- | 180 | 88 | 190,000 |
| Germany | -- | -- | -- | 40 | 12 | 40,500 |
| Norway | -- | -- | -- | 6 | 4 | 10,500 |
| United Kingdom | -- | -- | -- | 11 | 7 | 58,100 |
| Total | -- | -- | -- | 264 | 129 | 339,000 |
| 55% - 80% silicon, Other: | | | | | | |
| Brazil | 145 | 108 | \$115,000 | 232 | 173 | 175,000 |
| Canada | 841 | 631 | 440,000 | 2,440 | 1,840 | 1,570,000 |
| China | -- | -- | -- | 920 | 690 | 460,000 |
| France | 273 | 172 | 480,000 | 877 | 571 | 1,580,000 |
| Iceland | -- | -- | -- | 6,300 | 4,740 | 2,860,000 |
| Kazakhstan | 7,590 | 5,740 | 2,870,000 | 13,500 | 10,300 | 5,180,000 |
| Norway | 485 | 364 | 655,000 | 1,310 | 976 | 1,760,000 |
| South Africa | 1,290 | 925 | 576,000 | 1,930 | 1,380 | 864,000 |
| Ukraine | -- | -- | -- | 6,110 | 4,580 | 2,680,000 |
| Venezuela | -- | -- | -- | 11,000 | 8,250 | 5,830,000 |
| Other (4 countries) | 245 | 30 | 194,000 | 388 | 134 | 626,000 |
| Total | 10,900 | 7,970 | 5,330,000 | 45,000 | 33,600 | 23,600,000 |
| More than 90% silicon: | | | | | | |
| China | -- | -- | -- | 44 | 2,380 | 220,000 |
| Total | -- | -- | -- | 44 | 2,380 | 220,000 |
| Magnesium ferrosilicon: | | | | | | |
| Argentina | 80 | 38 | 58,100 | 465 | 194 | 298,000 |
| Brazil | 241 | 109 | 140,000 | 1,080 | 491 | 700,000 |
| Canada | 18 | 9 | 17,800 | 130 | 62 | 97,000 |
| China | 122 | 55 | 91,900 | 1,850 | 864 | 1,280,000 |
| Germany | (3/) | (3/) | 2,290 | (3/) | (3/) | 2,290 |
| Japan | -- | -- | -- | 46 | 23 | 97,700 |
| Norway | 1,180 | 548 | 944,000 | 3,290 | 1,510 | 2,690,000 |
| Slovenia | -- | -- | -- | 4 | 1 | 6,480 |
| Ukraine | -- | -- | -- | 18 | 9 | 7,970 |
| Total | 1,640 | 760 | 1,250,000 | 6,880 | 3,160 | 5,180,000 |

See footnotes at end of table.

TABLE 3--Continued
U.S. IMPORTS FOR CONSUMPTION OF FERROSILICON AND SILICON METAL IN APRIL 2002 1/ 2/

(Metric tons, unless otherwise specified)

| Country | Gross weight | Contained weight | Value | Year to date | | |
|----------------------------------|--------------|------------------|------------|--------------|------------------|-------------|
| | | | | Gross weight | Contained weight | Value |
| Ferrosilicon--Continued: | | | | | | |
| Other ferrosilicon: | | | | | | |
| Canada | 955 | 302 | \$678,000 | 3,720 | 1,350 | \$2,840,000 |
| China | 20 | 10 | 42,400 | 20 | 10 | 42,400 |
| France | -- | -- | -- | 4 | 1 | 9,060 |
| Norway | -- | -- | -- | 23 | 4 | 18,100 |
| Ukraine | 22 | 11 | 11,000 | 97 | 48 | 43,500 |
| Total | 997 | 323 | 731,000 | 3,870 | 1,410 | 2,960,000 |
| Total ferrosilicon | 13,500 | 9,050 | 7,310,000 | 56,100 | 40,700 | 32,300,000 |
| Metal: | | | | | | |
| More than 99.99% silicon: | | | | | | |
| Algeria | -- | XX | -- | (3/) | XX | 7,370 |
| China | 1 | XX | 35,700 | 5 | XX | 114,000 |
| Denmark | (3/) | XX | 26,500 | 1 | XX | 220,000 |
| Germany | 43 | XX | 5,980,000 | 117 | XX | 18,200,000 |
| Italy | 47 | XX | 1,730,000 | 145 | XX | 5,640,000 |
| Japan | 43 | XX | 1,510,000 | 172 | XX | 5,400,000 |
| Korea, Republic of | 9 | XX | 180,000 | 46 | XX | 533,000 |
| Spain | 3 | XX | 9,440 | 6 | XX | 16,300 |
| Taiwan | -- | XX | -- | 4 | XX | 76,500 |
| United Kingdom | (3/) | XX | 27,200 | 1 | XX | 63,900 |
| Other (5 countries) | (3/) | XX | 19,200 | (3/) | XX | 116,000 |
| Total | 147 | 147 e/ | 9,510,000 | 496 | 496 e/ | 30,400,000 |
| 99.00% - 99.99% silicon: | | | | | | |
| Argentina | 580 | 576 | 550,000 | 1,160 | 1,150 | 1,100,000 |
| Brazil | 2,110 | 2,090 | 2,820,000 | 8,010 | 7,950 | 9,950,000 |
| Canada | 1,070 | 1,060 | 1,290,000 | 3,320 | 3,290 | 4,000,000 |
| China | 80 | 79 | 54,500 | 100 | 99 | 81,100 |
| Japan | -- | -- | -- | (3/) | (3/) | 2,030 |
| Norway | 420 | 417 | 642,000 | 1,400 | 1,390 | 2,170,000 |
| Russia | 2,540 | 2,520 | 2,800,000 | 5,870 | 5,820 | 6,490,000 |
| South Africa | 1,730 | 1,710 | 1,730,000 | 6,020 | 5,970 | 6,610,000 |
| Spain | 120 | 119 | 116,000 | 1,420 | 1,410 | 1,360,000 |
| Sweden | -- | -- | -- | 21 | 21 | 144,000 |
| Ukraine | 21 | 21 | 16,100 | 42 | 41 | 32,100 |
| Total | 8,670 | 8,600 | 10,000,000 | 27,400 | 27,200 | 31,900,000 |
| Other silicon: | | | | | | |
| Belgium | 44 | 4 | 47,500 | 44 | 4 | 47,500 |
| Canada | -- | -- | -- | 803 | 787 | 963,000 |
| China | 260 | 256 | 187,000 | 1,200 | 1,180 | 827,000 |
| Italy | -- | -- | -- | 25 | 15 | 48,400 |
| Norway | -- | -- | -- | 1,050 | 1,010 | 939,000 |
| Russia | 2,840 | 2,780 | 2,360,000 | 8,620 | 8,460 | 7,010,000 |
| South Africa | 2,070 | 2,030 | 1,930,000 | 3,430 | 3,360 | 3,190,000 |
| Ukraine | -- | -- | -- | 21 | 21 | 16,100 |
| United Arab Emirates | -- | -- | -- | 159 | 157 | 141,000 |
| United Kingdom | 6 | (3/) | 6,320 | 6 | (3/) | 8,370 |
| Other (3 countries) | 5 | (3/) | 5,140 | 6 | 1 | 10,400 |
| Total | 5,230 | 5,070 | 4,530,000 | 15,400 | 15,000 | 13,200,000 |
| Total silicon metal | 14,000 | 13,800 | 24,100,000 | 43,200 | 42,700 | 75,500,000 |

e/ Estimated. XX Not applicable. -- Zero.

1/ Presentation of monthly data is based on the year-to-date quantities (gross weight) of the top ten countries.

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

3/ Less than 1/2 unit.

Source: U.S. Census Bureau.