

# Mineral Industry Surveys

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## SILICON IN APRIL 2002

In April, domestic shipments and production of silicon ferroalloys plus metal, excluding silvery pig iron, were estimated to have increased by about 21% and 4%, respectively, compared with that for the previous month, according to the U.S. Geological Survey. Total producer stocks were estimated to have decreased by about 8%. All data for ferrosilicon have been combined to avoid disclosing company proprietary data.

The March trade data included in this report indicated that the volume of magnesium ferrosilicon imports was at the lowest level since January 1997. Trade data for April were unavailable at the time of publication and will be included in a subsequent report.

On April 22, the U.S. International Trade Commission (ITC) announced its determination that the U.S. silicon metal producing industry was materially injured by Russian silicon metal imports allegedly sold at less than fair value (U.S. International Trade Commission, 2002). The ITC initiated its investigation of Russian silicon metal imports during July through December 2001 based on the March 7, 2002, petition by Globe Metallurgical Inc., SIMCALA, Inc., the International Union of Electronic, Electrical, Salaried, Machine and Furniture Workers, the Paper, Allied-Industrial Chemical and Energy Workers International Union, and the United Steel Workers of America. As a result of the ITC determination, the

International Trade Administration (ITA) is expected to announce preliminary duty margins by August 21, 2002 (American Metal Market, 2002).

The ITA held a public hearing on March 27, 2002, to solicit views on the status of the Russian Federation as a non-market economy country under the antidumping and countervailing duty laws (International Trade Administration, 2002b). On June 6, the ITA announced that Russia had transitioned to market economy status. The decision only affects future duty determinations that concern time periods after April 1, 2002, with no immediate effect on existing antidumping orders or investigations (International Trade Administration, 2002a).

### References Cited

American Metal Market, 2002, Silicon import injury seen, dumping probe to proceed: American Metal Market, v. 110, no. 65-1, April 22, p. 1.  
 International Trade Administration, 2002a, Fact Sheet - Russian transition to market economy status under U.S. trade remedy laws: International Trade Administration news release, June 6, 3 p.  
 International Trade Administration, 2002b, Inquiry into the status of the Russian Federation as a non-market economy country under the U.S. antidumping and countervailing duty laws—Notice of hearing: Federal Register, v. 67, no. 51, p. 11675.  
 U.S. International Trade Commission, 2002, Silicon metal from Russia: Federal Register, v. 67, no. 82, April 29, p. 20993.

### Prices, cents per pound, silicon content

|          | <u>50% Ferrosilicon<sup>1</sup></u> | <u>75% Ferrosilicon<sup>2</sup></u> | <u>Silicon Metal<sup>2</sup></u> |
|----------|-------------------------------------|-------------------------------------|----------------------------------|
| April 3  | 34.0-36.0                           | 29.0-30.0                           | 50.0-52.0                        |
| April 10 | 34.0-36.0                           | 29.0-30.0                           | 50.0-52.0                        |
| April 17 | 34.0-36.0                           | 29.0-30.0                           | 50.0-52.0                        |
| April 24 | 34.0-36.0                           | 29.5-30.5                           | 50.0-53.0                        |

<sup>1</sup>Source: Ryan's Notes, North American transaction price.

<sup>2</sup>Source: 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,<br>April 30 |
|-------------------------------|---------------------|--------------|---------------|--------------|---------------------|
|                               | April               | Year to date | April         | Year to date |                     |
| <b>Ferrosilicon:</b>          |                     |              |               |              |                     |
| All grades 5/ 6/              | 23,400              | 91,700       | 20,800        | 70,300       | 57,400              |
| <b>Silicon metal:</b>         |                     |              |               |              |                     |
| Excludes semiconductor grades | 9,770               | 39,300       | 9,950         | 35,800       | 3,440               |

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 MARCH 2002 1/ 2/

(Metric tons, unless otherwise specified)

| Country                          | Gross weight | Contained weight | Value      | Year to date |                  |            |
|----------------------------------|--------------|------------------|------------|--------------|------------------|------------|
|                                  |              |                  |            | Gross weight | Contained weight | Value      |
| <b>Ferrosilicon:</b>             |              |                  |            |              |                  |            |
| <b>More than 55% silicon:</b>    |              |                  |            |              |                  |            |
| Canada                           | 335          | 201              | \$272,000  | 1,060        | 635              | \$733,000  |
| Malaysia                         | 11           | 8                | 18,200     | 16           | 13               | 27,400     |
| Mexico                           | 18           | 11               | 18,300     | 88           | 53               | 98,200     |
| Total                            | 364          | 221              | 308,000    | 1,160        | 701              | 859,000    |
| <b>Other ferrosilicon:</b>       |              |                  |            |              |                  |            |
| Australia                        | 4            | 2                | 3,110      | 69           | 34               | 104,000    |
| Canada                           | 348          | 174              | 221,000    | 1,160        | 581              | 708,000    |
| China                            | --           | --               | --         | 48           | 24               | 13,100     |
| Ghana                            | 17           | 6                | 6,470      | 17           | 6                | 6,470      |
| Germany                          | --           | --               | --         | 16           | 9                | 27,700     |
| Italy                            | 16           | 8                | 26,300     | 33           | 17               | 52,600     |
| Korea, Republic of               | 163          | 82               | 259,000    | 493          | 247              | 754,000    |
| Malaysia                         | --           | --               | --         | 18           | 9                | 21,300     |
| Mexico                           | 54           | 27               | 67,000     | 166          | 83               | 187,000    |
| Peru                             | --           | --               | --         | 16           | 9                | 27,400     |
| Other (4 countries)              | 10           | 5                | 15,100     | 29           | 15               | 24,400     |
| Total                            | 612          | 304              | 598,000    | 2,070        | 1,030            | 1,930,000  |
| Total ferrosilicon               | 976          | 525              | 906,000    | 3,230        | 1,730            | 2,780,000  |
| <b>Metal:</b>                    |              |                  |            |              |                  |            |
| <b>More than 99.99% silicon:</b> |              |                  |            |              |                  |            |
| China                            | 40           | XX               | 1,050,000  | 132          | XX               | 3,440,000  |
| France                           | 7            | XX               | 154,000    | 16           | XX               | 378,000    |
| Germany                          | 20           | XX               | 923,000    | 80           | XX               | 3,680,000  |
| Italy                            | 4            | XX               | 601,000    | 20           | XX               | 1,740,000  |
| Japan                            | 173          | XX               | 9,920,000  | 644          | XX               | 32,400,000 |
| Korea, Republic of               | 43           | XX               | 1,920,000  | 99           | XX               | 4,130,000  |
| Malaysia                         | 5            | XX               | 1,100,000  | 13           | XX               | 2,750,000  |
| Nigeria                          | --           | XX               | --         | 12           | XX               | 335,000    |
| Norway                           | 60           | XX               | 1,440,000  | 105          | XX               | 2,520,000  |
| Taiwan                           | 1            | XX               | 106,000    | 17           | XX               | 600,000    |
| Other (29 countries)             | 41           | XX               | 2,360,000  | 83           | XX               | 5,670,000  |
| Total                            | 396          | 396 e/           | 19,600,000 | 1,220        | 1,220 e/         | 57,600,000 |

See footnotes at end of table.

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

(Metric tons, unless otherwise specified)

| Country                    | Gross weight | Contained weight | Value             | Year to date |                  |                   |
|----------------------------|--------------|------------------|-------------------|--------------|------------------|-------------------|
|                            |              |                  |                   | Gross weight | Contained weight | Value             |
| <b>Metal--Continued:</b>   |              |                  |                   |              |                  |                   |
| 99.00% - 99.99% silicon:   |              |                  |                   |              |                  |                   |
| Belgium                    | --           | --               | --                | 23           | 22               | \$32,000          |
| Brazil                     | 6            | 6                | \$9,120           | 37           | 37               | 52,800            |
| Denmark                    | 21           | 21               | 29,300            | 45           | 44               | 62,900            |
| Japan                      | 2            | 2                | 9,980             | 10           | 10               | 32,300            |
| Korea, Republic of         | --           | --               | --                | 20           | 20               | 28,600            |
| Mexico                     | 54           | 53               | 87,300            | 79           | 78               | 137,000           |
| Netherlands Antilles       | 15           | 14               | 20,500            | 15           | 14               | 20,500            |
| Norway                     | 51           | 51               | 72,000            | 121          | 120              | 171,000           |
| Sweden                     | --           | --               | --                | 19           | 19               | 26,500            |
| United Kingdom             | 10           | 10               | 17,400            | 13           | 12               | 21,300            |
| Other (4 countries)        | 7            | 6                | 15,800            | 18           | 18               | 36,600            |
| <b>Total</b>               | <b>165</b>   | <b>164</b>       | <b>261,000</b>    | <b>399</b>   | <b>395</b>       | <b>621,000</b>    |
| Other silicon:             |              |                  |                   |              |                  |                   |
| Canada                     | 99           | 96               | 125,000           | 364          | 354              | 453,000           |
| Germany                    | 25           | 24               | 32,500            | 72           | 70               | 94,700            |
| Hong Kong                  | 57           | 55               | 74,700            | 123          | 119              | 167,000           |
| Japan                      | 28           | 27               | 36,600            | 130          | 126              | 172,000           |
| Korea, Republic of         | 59           | 57               | 174,000           | 97           | 94               | 224,000           |
| Malaysia                   | 5            | 5                | 6,300             | 31           | 30               | 41,400            |
| Mexico                     | 98           | 95               | 239,000           | 320          | 310              | 658,000           |
| Switzerland                | --           | --               | --                | 24           | 24               | 32,200            |
| Taiwan                     | 2            | 2                | 2,660             | 67           | 65               | 88,900            |
| United Kingdom             | 15           | 15               | 160,000           | 91           | 88               | 218,000           |
| Other (12 countries)       | 34           | 33               | 45,400            | 99           | 96               | 182,000           |
| <b>Total</b>               | <b>421</b>   | <b>409</b>       | <b>896,000</b>    | <b>1,420</b> | <b>1,380</b>     | <b>2,330,000</b>  |
| <b>Total silicon metal</b> | <b>982</b>   | <b>969</b>       | <b>20,700,000</b> | <b>3,040</b> | <b>2,990</b>     | <b>60,600,000</b> |

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 MARCH 2002 1/ 2/

(Metric tons, unless otherwise specified)

| Country                        | Gross weight  | Contained weight | Value            | Year to date  |                  |                   |
|--------------------------------|---------------|------------------|------------------|---------------|------------------|-------------------|
|                                |               |                  |                  | Gross weight  | Contained weight | Value             |
| <b>Ferrosilicon:</b>           |               |                  |                  |               |                  |                   |
| 55% - 80% silicon, over 3% Ca: |               |                  |                  |               |                  |                   |
| Argentina                      | --            | --               | --               | 28            | 17               | \$39,700          |
| Brazil                         | 20 3/         | 3 3/             | \$12,000 3/      | 180           | 88               | 190,000           |
| Germany                        | --            | --               | --               | 40            | 12               | 40,500            |
| Norway                         | --            | --               | --               | 6             | 4                | 10,500            |
| United Kingdom                 | --            | --               | --               | 11            | 7                | 58,100            |
| <b>Total</b>                   | <b>20</b>     | <b>3</b>         | <b>12,000</b>    | <b>264</b>    | <b>129</b>       | <b>339,000</b>    |
| 55% - 80% silicon, Other:      |               |                  |                  |               |                  |                   |
| Canada                         | 475           | 361              | 354,000          | 1,600         | 1,210            | 1,130,000         |
| China                          | 920           | 690              | 460,000          | 920           | 690              | 460,000           |
| France                         | 269           | 175              | 453,000          | 604           | 399              | 1,100,000         |
| Germany                        | 33            | 25               | 173,000          | 101           | 76               | 394,000           |
| Iceland                        | --            | --               | --               | 6,300         | 4,740            | 2,860,000         |
| Kazakhstan                     | 5,910         | 4,540            | 2,310,000        | 5,910         | 4,540            | 2,310,000         |
| Norway                         | 154           | 114              | 198,000          | 821           | 612              | 1,110,000         |
| South Africa                   | 4,010         | 3,010            | 2,110,000        | 635           | 451              | 288,000           |
| Ukraine                        | --            | --               | --               | 6,110         | 4,580            | 2,680,000         |
| Venezuela                      | --            | --               | --               | 11,000        | 8,250            | 5,830,000         |
| Other (2 countries)            | 87            | 65               | 59,500           | 128           | 93               | 98,400            |
| <b>Total</b>                   | <b>11,900</b> | <b>8,980</b>     | <b>6,120,000</b> | <b>34,100</b> | <b>25,600</b>    | <b>18,300,000</b> |

See footnotes at end of table.

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

(Metric tons, unless otherwise specified)

| Country                          | Gross weight | Contained weight | Value     | Year to date |                  |            |
|----------------------------------|--------------|------------------|-----------|--------------|------------------|------------|
|                                  |              |                  |           | Gross weight | Contained weight | Value      |
| <b>Ferrosilicon--Continued:</b>  |              |                  |           |              |                  |            |
| <b>More than 90% silicon:</b>    |              |                  |           |              |                  |            |
| China                            | --           | --               | --        | 44           | 2,380            | \$220,000  |
| Total                            | --           | --               | --        | 44           | 2,380            | 220,000    |
| <b>Magnesium ferrosilicon:</b>   |              |                  |           |              |                  |            |
| Argentina                        | --           | --               | --        | 385          | 155              | 240,000    |
| Brazil                           | 209          | 94               | \$168,000 | 840          | 382              | 561,000    |
| Canada                           | --           | --               | --        | 112          | 54               | 79,200     |
| China                            | 81           | 37               | 64,500    | 1,720        | 809              | 1,190,000  |
| Japan                            | 16           | 8                | 33,100    | 46           | 23               | 97,700     |
| Norway                           | 388          | 179              | 323,000   | 2,100        | 963              | 1,740,000  |
| Slovenia                         | --           | --               | --        | 4            | 1                | 6,480      |
| Ukraine                          | 18           | 9                | 7,970     | 18           | 9                | 7,970      |
| Total                            | 713          | 326              | 597,000   | 5,230        | 2,400            | 3,920,000  |
| <b>Other ferrosilicon:</b>       |              |                  |           |              |                  |            |
| Canada                           | 1,210        | 489              | 965,000   | 2,770        | 1,050            | 2,160,000  |
| France                           | --           | --               | --        | 4            | 1                | 9,060      |
| Norway                           | 3            | 1                | 2,700     | 23           | 4                | 18,100     |
| Ukraine                          | 18           | 9                | 7,970     | 75           | 37               | 32,400     |
| Total                            | 1,230        | 499              | 976,000   | 2,870        | 1,090            | 2,220,000  |
| Total ferrosilicon               | 13,800       | 9,810            | 7,700,000 | 42,500       | 31,600           | 25,000,000 |
| <b>Metal:</b>                    |              |                  |           |              |                  |            |
| <b>More than 99.99% silicon:</b> |              |                  |           |              |                  |            |
| China                            | (4/)         | XX               | 22,300    | 3            | XX               | 78,300     |
| Denmark                          | (4/)         | XX               | 45,700    | 1            | XX               | 194,000    |
| Germany                          | 29           | XX               | 4,930,000 | 73           | XX               | 12,200,000 |
| Italy                            | 52           | XX               | 2,050,000 | 98           | XX               | 3,910,000  |
| Japan                            | 53           | XX               | 1,390,000 | 129          | XX               | 3,890,000  |
| Korea, Republic of               | 2            | XX               | 65,000    | 37           | XX               | 353,000    |
| Spain                            | 2            | XX               | 6,830     | 2            | XX               | 6,830      |
| Taiwan                           | 4            | XX               | 76,500    | 4            | XX               | 76,500     |
| United Kingdom                   | 1            | XX               | 36,700    | 1            | XX               | 36,700     |
| Other (6 countries)              | (4/)         | XX               | 64,800    | 1            | XX               | 104,000    |
| Total                            | 143          | 143 e/           | 8,690,000 | 349          | 349 e/           | 20,800,000 |
| <b>99.00% - 99.99% silicon:</b>  |              |                  |           |              |                  |            |
| Argentina                        | 300          | 298              | 284,000   | 580          | 575              | 551,000    |
| Brazil                           | 1,800        | 1,780            | 2,230,000 | 5,900        | 5,860            | 7,120,000  |
| Canada                           | 534          | 530              | 646,000   | 2,250        | 2,230            | 2,710,000  |
| China                            | --           | --               | --        | 20           | 20               | 26,600     |
| Japan                            | --           | --               | --        | (4/)         | (4/)             | 2,030      |
| Norway                           | 505          | 501              | 817,000   | 985          | 977              | 1,530,000  |
| Russia                           | 1,230        | 1,220            | 1,160,000 | 3,330        | 3,300            | 3,690,000  |
| South Africa                     | 1,430        | 1,420            | 1,780,000 | 4,290        | 4,260            | 4,880,000  |
| Spain                            | 180          | 179              | 173,000   | 1,300        | 1,290            | 1,240,000  |
| Sweden                           | 12           | 12               | 82,600    | 21           | 21               | 144,000    |
| Other (Ukraine)                  | 21           | 21               | 16,100    | 21           | 21               | 16,100     |
| Total                            | 6,010        | 5,960            | 7,190,000 | 18,700       | 18,600           | 21,900,000 |

See footnotes at end of table.

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

(Metric tons, unless otherwise specified)

| Country                    | Gross weight | Contained weight | Value             | Year to date  |                  |                   |
|----------------------------|--------------|------------------|-------------------|---------------|------------------|-------------------|
|                            |              |                  |                   | Gross weight  | Contained weight | Value             |
| <b>Metal--Continued:</b>   |              |                  |                   |               |                  |                   |
| <b>Other silicon:</b>      |              |                  |                   |               |                  |                   |
| Canada                     | 268          | 263              | \$322,000         | 803           | 787              | \$963,000         |
| China                      | 160          | 158              | 109,000           | 936           | 922              | 640,000           |
| France                     | --           | --               | --                | 1             | 1                | 2,470             |
| Italy                      | --           | --               | --                | 25            | 15               | 48,400            |
| Japan                      | (4/)         | (4/)             | 2,800             | (4/)          | (4/)             | 2,800             |
| Norway                     | 18           | (4/) 3/          | 53,000            | 1,050         | 1,010            | 939,000           |
| Russia                     | 692          | 681              | 551,000           | 5,790         | 5,680            | 4,660,000         |
| South Africa               | --           | --               | --                | 1,350         | 1,330            | 1,260,000         |
| Ukraine                    | 21           | 21               | 16,100            | 21            | 21               | 16,100            |
| United Arab Emirates       | --           | --               | --                | 159           | 157              | 141,000           |
| Other (United Kingdom)     | --           | --               | --                | (4/)          | (4/)             | 2,050             |
| <b>Total</b>               | <b>1,160</b> | <b>1,120</b>     | <b>1,050,000</b>  | <b>10,100</b> | <b>9,930</b>     | <b>8,670,000</b>  |
| <b>Total silicon metal</b> | <b>7,310</b> | <b>7,220</b>     | <b>16,900,000</b> | <b>29,200</b> | <b>28,800</b>    | <b>51,400,000</b> |

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

4/ Less than 1/2 unit.

Source: U.S. Census Bureau.