# Mineral Industry Surveys 

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## SULFUR IN MAY 2012

During May 2012, production of recovered elemental sulfur was 728,000 metric tons ( t ), which was $9 \%$ higher than that of April 2012 and 7\% higher than that of May 2011. Shipments were 725,000 t, which was 6\% higher than those of April 2012. Producers' ending stocks for May 2012 were 142,000 t.

Imports of recovered sulfur for May 2012 were estimated to be 293,000 t; exports were 178,000 t. Imports of sulfuric acid for May 2012 were 203,000 t; exports were 15,000 t.
U.S. sulfur consumption, calculated as shipments minus exports plus imports, was $840,000 \mathrm{t}$ in May 2012. This was 5\% lower than that of April 2012 and about 6\% lower than that of May 2011.

Significant adjustments have been made to the sulfur import data. The U.S. Census Bureau appears to underreport sulfur imports, especially material from Canada. The revised figures are based on Census information and data from personal communications with industry experts.

TABLE 1
SALIENT SULFUR STATISTICS ${ }^{1}$
(Thousand metric tons)

| Period | Production |  |  | Shipments, all sources | Stocks, end of period ${ }^{3}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | Petroleum ${ }^{2}$ | Natural gas | Total |  |  |
| 2011: |  |  |  |  |  |
| January-December | 7,080 | 1,130 | 8,210 | 8,190 | 176 |
| January-May ${ }^{\text {r }}$ | 2,790 | 488 | 3,280 | 3,290 | 143 |
| May | 585 | 96 | 681 | 682 | 143 |
| June | 620 | 76 | 697 | 698 | 140 |
| July | 614 | 92 | 705 | 681 | 164 |
| August | 623 | 98 | 720 | 731 | 159 |
| September | 586 | 93 | 678 | 676 | 156 |
| October | 602 | 86 | 688 | 687 | 161 |
| November | 590 | 94 | 684 | 689 | 157 |
| December | 656 | 101 | 756 | 738 | 176 |
| 2012: |  |  |  |  |  |
| January | 584 | 98 | 682 | 696 | 161 |
| February | 564 | 97 | 661 | 661 | 162 |
| March | 584 | 96 | 680 | 692 | 151 |
| April | 573 | $96{ }^{\text {r }}$ | $669{ }^{\text {r }}$ | $685{ }^{\text {r }}$ | 136 |
| May ${ }^{\text {p }}$ | 641 | 87 | 728 | 725 | 142 |
| January-May | 2,950 | 475 | 3,420 | 3,460 | 142 |

${ }^{\mathrm{p}}$ Preliminary. ${ }^{\mathrm{F}}$ Revised.
${ }^{1}$ Data are rounded to no more than three significant digits; may not add to totals shown.
${ }^{2}$ Includes a small quantity from coking operations.
${ }^{3}$ Subject to inventory adjustments.

TABLE 2
U.S. IMPORTS OF SULFUR ${ }^{1}$
(Thousand metric tons and thousand dollars)

| Period | Canada |  | Mexico |  | Venezuela |  | Total, all countries ${ }^{2}$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Quantity ${ }^{\text {e }}$ | Value ${ }^{3}$ | Quantity | Value ${ }^{3}$ | Quantity ${ }^{\text {e }}$ | Value ${ }^{3}$ | Quantity ${ }^{\text {e }}$ | Value ${ }^{3}$ |
| 2011: |  |  |  |  |  |  |  |  |
| January-December | 2,700 | 188,000 | 303 | 54,500 | 99 | 16,400 | 3,270 | 301,000 |
| January-May | 1,090 ${ }^{\text {r }}$ | 74,300 | 145 | 23,400 | 31 | 5,030 | 1,330 ${ }^{\text {r }}$ | 117,000 |
| May | 230 | 14,700 | 29 | 6,190 | -- | -- | 260 | 21,600 |
| June | 220 | 14,400 | 14 | 2,760 | 15 | 2,750 | 315 | 37,300 |
| July | 240 | 18,100 | 29 | 5,910 | -- | -- | 270 | 24,500 |
| August | 240 | 17,800 | 14 | 3,330 | 15 | 2,720 | 308 | 33,500 |
| September | 230 | 15,600 | 29 | 5,400 | 8 | 1,510 | 267 | 22,900 |
| October | 230 | 16,300 | 14 | 3,240 | -- | -- | 245 | 19,800 |
| November | 220 | 13,700 | 29 | 5,420 | 10 | 1,370 | 259 | 20,800 |
| December | 230 | 17,600 | 29 | 5,010 | 20 | 2,970 | 279 | 25,800 |
| 2012: |  |  |  |  |  |  |  |  |
| January | 240 | 13,700 | 29 | 5,230 | -- | -- | 269 | 19,200 |
| February | 220 | 12,800 | 29 | 3,930 | 13 | 1,820 | 263 | 18,900 |
| March | 240 | 15,400 | 29 | 3,410 | 12 | 1,610 | 281 | 20,700 |
| April | 230 | 12,300 | 49 | 7,990 | 13 | 1,790 | 292 | 22,300 |
| May | 240 | 13,100 | 43 | 6,260 | 10 | 1,360 | 293 | 21,000 |
| January-May | 1,170 | 67,200 | 179 | 26,800 | 48 | 6,580 | 1,400 | 102,000 |

${ }^{\mathrm{e}}$ Estimated. ${ }^{\mathrm{r}}$ Revised. -- Zero.
${ }^{1}$ Data are rounded to no more than three significant digits; may not add to totals shown.
${ }^{2}$ May include other countries not listed.
${ }^{3}$ Declared customs valuation.

Sources: U.S. Census Bureau data as adjusted by U.S. Geological Survey and ICIS PentaSul North America Sulphur Service.

TABLE 3

## U.S. IMPORTS OF SULFURIC ACID ${ }^{1}$

(Thousand metric tons and thousand dollars)

| Period | Canada |  |  | Mexico |  |  | Total, all countries ${ }^{2}$ |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Quantity | Sulfur content | Value ${ }^{3}$ | Quantity | Sulfur content | Value ${ }^{3}$ | Quantity | Sulfur content | Value ${ }^{3}$ |
| 2011: |  |  |  |  |  |  |  |  |  |
| January-December | 1,820 | 596 | 158,000 | 433 | 142 | 29,400 | 2,670 | 871 | 244,000 |
| January-May | 728 | 238 | 50,800 | 186 | 61 | 12,300 | 1,150 | $377{ }^{\text {r }}$ | 94,700 |
| May | 135 | 44 | 7,460 | 40 | 13 | 2,950 | 229 | 75 | 17,000 |
| June | 116 | 38 | 7,670 | 39 | 13 | 2,750 | 221 | 72 | 18,100 |
| July | 157 | 51 | 16,000 | 23 | 8 | 1,570 | 205 | 68 | 23,800 |
| August | 169 | 55 | 18,500 | 46 | 15 | 3,250 | 237 | 78 | 25,600 |
| September | 141 | 46 | 15,600 | 30 | 10 | 2,130 | 175 | 57 | 19,600 |
| October | 179 | 59 | 17,600 | 35 | 11 | 2,440 | 230 | 75 | 21,600 |
| November | 155 | 51 | 14,600 | 31 | 10 | 2,180 | 188 | 61 | 17,100 |
| December | 178 | 58 | 16,900 | 43 | 14 | 2,860 | 257 | 84 | 23,200 |
| 2012: |  |  |  |  |  |  |  |  |  |
| January | 192 | 63 | 16,600 | 32 | 10 | 2,320 | 291 | 95 | 26,500 |
| February | 146 | 48 | 12,300 | 39 | 13 | 2,870 | 203 | 66 | 17,800 |
| March | 167 | 55 | 14,000 | 47 | 15 | 3,540 | 272 | 89 | 22,400 |
| April | 169 | 55 | 13,400 | 37 | 12 | 2,670 | 225 | 74 | 19,600 |
| May | 156 | 51 | 11,500 | 37 | 12 | 2,740 | 203 | 66 | 16,800 |
| January-May | 830 | 272 | 67,700 | 192 | 62 | 14,100 | 1,190 | 390 | 103,000 |

${ }^{\mathrm{r}}$ Revised.
${ }^{1}$ Data are rounded to no more than three significant digits; may not add to totals shown.
${ }^{2}$ May include other countries not listed.
${ }^{3}$ Declared customs valuation.

Source: U.S. Census Bureau.

TABLE 4
U.S. EXPORTS OF SULFUR AND SULFURIC ACID ${ }^{1}$
(Thousand metric tons and thousand dollars)

| Period | Sulfur |  | Sulfuric acid |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Quantity | Sulfur content | Value ${ }^{2}$ |
|  | Quantity | Value ${ }^{2}$ |  |  |  |
| 2011: |  |  |  |  |  |
| January-December | 1,310 | 266,000 | 332 | 109 | 41,500 |
| January-May | 497 | 92,800 | 137 | 45 | 16,000 |
| May | 52 | 11,400 | 27 | 9 | 3,180 |
| June | 189 | 34,500 | 26 | 8 | 3,410 |
| July | 61 | 15,600 | 30 | 10 | 3,790 |
| August | 116 | 24,900 | 68 | 22 | 5,100 |
| September | 160 | 30,100 | 24 | 8 | 3,740 |
| October | 79 | 17,900 | 11 | 4 | 1,830 |
| November | 117 | 26,500 | 23 | 8 | 5,510 |
| December | 90 | 23,400 | 13 | 4 | 2,080 |
| 2012: |  |  |  |  |  |
| January | 155 | 32,900 | 15 | 5 | 2,760 |
| February | 66 | 11,000 | 10 | 3 | 2,030 |
| March | 216 | 60,200 | 10 | 3 | 1,950 |
| April | 89 | 17,800 | 11 | 4 | 2,410 |
| May | 178 | 33,800 | 15 | 5 | 2,850 |
| January-May | 704 | 156,000 | 61 | 20 | 12,000 |

${ }^{1}$ Data are rounded to no more than three significant digits; may not add to totals shown.
${ }^{2}$ Declared f.a.s. (free alongside ship) valuation.

Source: U.S. Census Bureau.

TABLE 5
U.S. CONSUMPTION OF SULFUR ${ }^{1}$
(Thousand metric tons)

| Period | Domestic sources ${ }^{2}$ | Imports ${ }^{\text {e }}$ | Consumption |
| :---: | :---: | :---: | :---: |
| 2011: |  |  |  |
| January-December | 6,880 | 3,270 | 10,100 |
| January-May | 2,790 ${ }^{\text {r }}$ | 1,330 ${ }^{\text {r }}$ | 4,120 |
| May | 630 | 260 | 890 |
| June | 509 | 315 | 824 |
| July | 620 | 270 | 890 |
| August | 615 | 308 | 923 |
| September | 516 | 267 | 783 |
| October | 608 | 245 | 853 |
| November | 572 | 259 | 831 |
| December | 648 | 279 | 927 |
| 2012: |  |  |  |
| January | 541 | 269 | 810 |
| February | 595 | 263 | 858 |
| March | 476 | 281 | 757 |
| April | $596{ }^{\text {r }}$ | 292 | $888{ }^{\text {r }}$ |
| May | $547{ }^{\text {p }}$ | 293 | 840 |
| January-May | 2,760 | 1,400 | 4,150 |

${ }^{\mathrm{e}}$ Estimated. ${ }^{\mathrm{P}}$ Preliminary. ${ }^{\mathrm{r}}$ Revised.
${ }^{1}$ Data are rounded to no more than three significant digits; may not add to totals shown.
${ }^{2}$ Calculated as shipments minus exports.

TABLE 6
RECOVERED SULFUR PRODUCED AND SHIPPED IN THE UNITED STATES, BY PAD (PETROLEUM ADMINISTRATION FOR DEFENSE) DISTRICT ${ }^{1}$
(Thousand metric tons)

| District and source | January-May $2011{ }^{2}$ |  | April 2012 |  | May 2012 ${ }^{\text {p }}$ |  | January-May 2012 ${ }^{\text {p, } 2}$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Production | Shipments | Production | Shipments | Production | Shipments | Production | Shipments |
| PAD 1: |  |  |  |  |  |  |  |  |
| Petroleum and coke | 29 | 24 | 8 | 8 | 10 | 10 | 38 | 42 |
| Natural gas | 5 | 5 | 1 | 1 | 1 | 1 | 5 | 5 |
| Total | 34 | 29 | 9 | 9 | 11 | 11 | 43 | 48 |
| PAD 2: |  |  |  |  |  |  |  |  |
| Petroleum and coke | 404 | 414 | 89 | 89 | 87 | 88 | 446 | 447 |
| Natural gas | 8 | 8 | 1 | 1 | 2 | 2 | 8 | 8 |
| Total | 413 | 422 | 91 | 91 | 89 | 90 | 454 | 455 |
| PAD 3: ${ }^{3}$ |  |  |  |  |  |  |  |  |
| Petroleum and coke | 1,860 | 1,860 | 381 | 388 | 436 | 433 | 1,940 | 1,970 |
| Natural gas | 192 | 193 | 38 | 39 | 37 | 37 | 192 | 193 |
| Total | 2,050 | 2,050 | 419 | 427 | 473 | 470 | 2,140 | 2,160 |
| PAD 4 and 5: |  |  |  |  |  |  |  |  |
| Petroleum and coke | 501 | 499 | 95 | 101 | 108 | 109 | 519 | 525 |
| Natural gas | 282 | 284 | $55^{\text {r }}$ | 57 | 48 | 45 | 269 | 267 |
| Total | 784 | 782 | $149{ }^{\text {r }}$ | 158 | 155 | 154 | 788 | 792 |
| Grand total | 3,280 | 3,290 | $669{ }^{\text {r }}$ | $685{ }^{\text {r }}$ | 728 | 725 | 3,420 | 3,460 |

${ }^{\mathrm{P}}$ Preliminary. ${ }^{\mathrm{r}}$ Revised.
${ }^{1}$ Data are rounded to no more than three significant digits; may not add to totals shown.
${ }^{2}$ May include revisions to previously published data.
${ }^{3}$ Includes the U.S. Virgin Islands.

TABLE 7

## COMPARATIVE SULFUR AND SULFURIC ACID STATISTICS ${ }^{1}$

(Million metric tons per year [annualized basis] and dollars per metric ton for period shown)

|  | 2011 | 2012 |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  |  | April | May | Total |
| Production | 8.21 | $8.14{ }^{\text {r }}$ | $8.57{ }^{\text {p }}$ | 8.21 |
| Shipments | 8.19 | $8.33{ }^{\text {r }}$ | $8.54{ }^{\text {p }}$ | 8.31 |
| Exports of sulfur | 1.31 | 1.08 | 2.10 | 1.69 |
| Imports of sulfur: |  |  |  |  |
| Canada ${ }^{\text {e }}$ | 2.70 | 2.80 | 2.83 | 2.81 |
| Mexico | 0.30 | 0.60 | 0.51 | 0.43 |
| Venezuela ${ }^{\text {e }}$ | 0.10 | 0.16 | 0.12 | 0.12 |
| Total ${ }^{\text {e } 2}$ | 3.27 | 3.55 | 3.45 | 3.36 |
| Exports of $\mathrm{H}_{2} \mathrm{SO}_{4}$ | 0.33 | 0.13 | 0.18 | 0.15 |
| Imports of $\mathrm{H}_{2} \mathrm{SO}_{4}$ : |  |  |  |  |
| Canada | 1.82 | 2.06 | 1.84 | 1.99 |
| Mexico | 0.43 | 0.45 | 0.44 | 0.46 |
| Total ${ }^{2}$ | 2.67 | 2.74 | 2.39 | 2.87 |
| Consumption: |  |  |  |  |
| Domestic sources | 6.88 | $7.25{ }^{\text {r }}$ | 6.44 | 6.62 |
| Imports ${ }^{\text {e }}$ | 3.27 | 3.55 | 3.45 | 3.36 |
| Total | 10.20 | 10.80 | 9.89 | 9.97 |
| Sulfur export values ${ }^{3}$ | 203 | 200 | 190 | 221 |
| Sulfur import values: ${ }^{3}$ |  |  |  |  |
| Canada | 70 | 53 | 54 | 57 |
| Mexico | 180 | 163 | 146 | 150 |
| Venezuela | 165 | 138 | 136 | 137 |
| Average ${ }^{2}$ | 92 | 77 | 72 | 73 |
| $\mathrm{H}_{2} \mathrm{SO}_{4}$ export values ${ }^{3}$ | 125 | 219 | 190 | 197 |
| $\mathrm{H}_{2} \mathrm{SO}_{4}$ import values: ${ }^{3}$ |  |  |  |  |
| Canada | 86 | 79 | 74 | 82 |
| Mexico | 68 | 72 | 74 | 74 |
| Average ${ }^{2}$ | 91 | 87 | 83 | 86 |

${ }^{e}$ Estimated. ${ }^{\mathrm{P}}$ Preliminary. ${ }^{\mathrm{r}}$ Revised.
${ }^{1}$ Data are rounded to no more than three significant digits; may not add to totals shown.
${ }^{2}$ Includes other countries not listed.
${ }^{3}$ Average value per ton.

