
TABLES

Table 4. Flow budgets for individual zones of contribution to individual wells or groups of wells within the Independence, Missouri, well field

[Rounding of numbers in table may cause small discrepancies between the sum of the values in each column and column totals; ZOC, zone of contribution; m³/day, cubic meters per day; na, not applicable]

| Budget category (source, sink, or ZOC) | Inflow to ZOC (m ³ /day) | Outflow from ZOC (m ³ /day) | Sources and sinks within ZOC | | Sources and sinks within ZOC and flow between ZOCs | |
|--|---|---|--------------------------------------|-----------------------------------|--|-----------------------------------|
| | | | Percent inflow from sources | Percent outflow to sinks | Percent inflow from sources | Percent outflow to sinks |
| ZOC 1 - Entire model except for ZOCs of the Independence well field | | | | | | |
| Constant head | 0 | 0 | 0 | 0 | 0 | 0 |
| Wells | 0 | 239,820 | 0 | 38.9 | 0 | 38.4 |
| Drains | 0 | 82,860 | 0 | 13.5 | 0 | 13.3 |
| River inflow/outflow | 385,370 | 285,870 | 62.6 | 46.4 | 61.7 | 45.8 |
| Head-dependent boundaries | 7,547 | 7,275 | 1.2 | 1.2 | 1.2 | 1.2 |
| Recharge from precipitation | 223,100 | 0 | 36.2 | 0 | 35.7 | 0 |
| Flow between ZOC 2 and ZOC 1 | 27 | 56 | na | na | 0 | 0 |
| Flow between ZOC 5 and ZOC 1 | 95 | 26 | na | na | 0 | 0 |
| Flow between ZOC 8 and ZOC 1 | 167 | 164 | na | na | 0 | 0 |
| Flow between ZOC 10 and ZOC 1 | 2,000 | 2,046 | na | na | 0 | 0 |
| Flow between ZOC 14 and ZOC 1 | 65 | 25 | na | na | 0 | 0 |
| Flow between ZOC 15 and ZOC 1 | 3 | 0 | na | na | 0 | 0 |
| Flow between ZOC 22 and ZOC 1 | 1 | 0 | na | na | 0 | 0 |
| Flow between ZOC 34 and ZOC 1 | 114 | 119 | na | na | 0 | 0 |
| Flow between ZOC 35 and ZOC 1 | 0 | 2 | na | na | 0 | 0 |
| Flow between ZOC 36 and ZOC 1 | 0 | 1 | na | na | 0 | 0 |
| Flow between ZOC 38 and ZOC 1 | 0 | 2 | na | na | 0 | 0 |
| Flow between ZOC 39 and ZOC 1 | 0 | 2 | na | na | 0 | 0 |
| Flow between ZOC 40 and ZOC 1 | 0 | 1 | na | na | 0 | 0 |
| Flow between ZOC 41 and ZOC 1 | 1,147 | 816 | na | na | .2 | .1 |
| Flow between ZOC 43 and ZOC 1 | 1,335 | 1,139 | na | na | .2 | .2 |
| Flow between ZOC 47 and ZOC 1 | 1,568 | 1,725 | na | na | .3 | .3 |
| Flow between ZOC 49 and ZOC 1 | 2,377 | 2,585 | na | na | .4 | .4 |
| Total | 624,916 | 624,534 | na | na | 100.0 | 100.0 |
| ZOC 2 - Includes wells 2 and 4 | | | | | | |
| Constant head | 0 | 0 | 0 | 0 | 0 | 0 |
| Wells | 0 | 3,921 | 0 | 100.0 | 0 | 31.2 |
| Drains | 0 | 0 | 0 | 0 | 0 | 0 |
| River inflow/outflow | 472 | 0 | 97.7 | 0 | 3.7 | 0 |
| Head-dependent boundaries | 0 | 0 | 0 | 0 | 0 | 0 |
| Recharge from precipitation | 11 | 0 | 2.3 | 0 | .1 | 0 |
| Flow between ZOC 1 and ZOC 2 | 56 | 27 | na | na | .4 | .2 |
| Flow between ZOC 5 and ZOC 2 | 1,866 | 173 | na | na | 14.8 | 1.4 |
| Flow between ZOC 11 and ZOC 2 | 2,392 | 3,508 | na | na | 19.0 | 27.9 |
| Flow between ZOC 14 and ZOC 2 | 137 | 0 | na | na | 1.1 | 0 |
| Flow between ZOC 17 and ZOC 2 | 0 | 2,087 | na | na | 0 | 16.6 |

Table 4. Flow budgets for individual zones of contribution to individual wells or groups of wells within the Independence, Missouri, well field—Continued

[Rounding of numbers in table may cause small discrepancies between the sum of the values in each column and column totals; ZOC, zone of contribution; m³/day, cubic meters per day; na, not applicable]

| Budget category (source, sink, or ZOC) | Inflow to ZOC (m ³ /day) | Outflow from ZOC (m ³ /day) | Sources and sinks within ZOC | | Sources and sinks within ZOC and flow between ZOCs | |
|---|---|---|--------------------------------------|-----------------------------------|--|-----------------------------------|
| | | | Percent inflow from sources | Percent outflow to sinks | Percent inflow from sources | Percent outflow to sinks |
| ZOC 2 - Includes wells 2 and 4—Continued | | | | | | |
| Flow between ZOC 25 and ZOC 2 | 7,594 | 1,110 | na | na | 60.3 | 8.8 |
| Flow between ZOC 30 and ZOC 2 | 0 | 1,682 | na | na | 0 | 13.4 |
| Flow between ZOC 47 and ZOC 2 | 59 | 65 | na | na | .5 | .5 |
| Total | 12,587 | 12,573 | na | na | 100.0 | 100.0 |
| ZOC 5 - Includes well 5 | | | | | | |
| Constant head | 0 | 0 | 0 | 0 | 0 | 0 |
| Wells | 0 | 3,225 | 0 | 100.0 | 0 | 19.1 |
| Drains | 0 | 0 | 0 | 0 | 0 | 0 |
| River inflow/outflow | 16,669 | 0 | 99.9 | 0 | 98.7 | 0 |
| Head-dependent boundaries | 0 | 0 | 0 | 0 | 0 | 0 |
| Recharge from precipitation | 23 | 0 | .1 | 0 | .1 | 0 |
| Flow between ZOC 1 and ZOC 5 | 26 | 95 | na | na | .2 | .6 |
| Flow between ZOC 2 and ZOC 5 | 173 | 1,866 | na | na | 1.0 | 11.1 |
| Flow between ZOC 8 and ZOC 5 | 0 | 2,112 | na | na | 0 | 12.5 |
| Flow between ZOC 11 and ZOC 5 | 0 | 4,709 | na | na | 0 | 27.9 |
| Flow between ZOC 12 and ZOC 5 | 7 | 46 | na | na | 0 | .3 |
| Flow between ZOC 30 and ZOC 5 | 0 | 4,705 | na | na | 0 | 27.9 |
| Flow between ZOC 47 and ZOC 5 | 0 | 94 | na | na | 0 | .6 |
| Total | 16,898 | 16,852 | na | na | 100.0 | 100.0 |
| ZOC 8 - Includes wells 8 and 9 | | | | | | |
| Constant head | 0 | 0 | 0 | 0 | 0 | 0 |
| Wells | 0 | 7,057 | 0 | 100.0 | 0 | 33.5 |
| Drains | 0 | 0 | 0 | 0 | 0 | 0 |
| River inflow/outflow | 386 | 0 | 87.8 | 0 | 1.8 | 0 |
| Head-dependent boundaries | 0 | 0 | 0 | 0 | 0 | 0 |
| Recharge from precipitation | 54 | 0 | 12.2 | 0 | .3 | 0 |
| Flow between ZOC 1 and ZOC 8 | 164 | 167 | na | na | .8 | .8 |
| Flow between ZOC 5 and ZOC 8 | 2,112 | 0 | na | na | 10.0 | 0 |
| Flow between ZOC 10 and ZOC 8 | 2,895 | 5,728 | na | na | 13.8 | 27.2 |
| Flow between ZOC 12 and ZOC 8 | 3,323 | 2,416 | na | na | 15.8 | 11.5 |
| Flow between ZOC 27 and ZOC 8 | 7,390 | 4,400 | na | na | 35.1 | 20.9 |
| Flow between ZOC 30 and ZOC 8 | 4,703 | 1,212 | na | na | 22.4 | 5.8 |
| Flow between ZOC 41 and ZOC 8 | 10 | 57 | na | na | 0 | .3 |
| Total | 21,037 | 21,037 | na | na | 100.0 | 100.0 |

Table 4. Flow budgets for individual zones of contribution to individual wells or groups of wells within the Independence, Missouri, well field—Continued

[Rounding of numbers in table may cause small discrepancies between the sum of the values in each column and column totals; ZOC, zone of contribution; m³/day, cubic meters per day; na, not applicable]

| Budget category (source, sink, or ZOC) | Inflow to ZOC (m ³ /day) | Outflow from ZOC (m ³ /day) | Sources and sinks within ZOC | | Sources and sinks within ZOC and flow between ZOCs | |
|---|---|---|--------------------------------------|-----------------------------------|--|-----------------------------------|
| | | | Percent inflow from sources | Percent outflow to sinks | Percent inflow from sources | Percent outflow to sinks |
| ZOC 10 - Includes well 10 | | | | | | |
| Constant head | 0 | 0 | 0 | 0 | 0 | 0 |
| Wells | 0 | 6,303 | 0 | 100.0 | 0 | 37.4 |
| Drains | 0 | 0 | 0 | 0 | 0 | 0 |
| River inflow/outflow | 741 | 0 | 34.0 | 0 | 4.4 | 0 |
| Head-dependent boundaries | 0 | 0 | 0 | 0 | 0 | 0 |
| Recharge from precipitation | 1,438 | 0 | 66.0 | 0 | 8.5 | 0 |
| Flow between ZOC 1 and ZOC 10 | 2,046 | 2,000 | na | na | 12.1 | 11.9 |
| Flow between ZOC 8 and ZOC 10 | 5,728 | 2,895 | na | na | 34.0 | 17.2 |
| Flow between ZOC 11 and ZOC 10 | 2,539 | 537 | na | na | 15.1 | 3.2 |
| Flow between ZOC 17 and ZOC 10 | 60 | 20 | na | na | .4 | .1 |
| Flow between ZOC 22 and ZOC 10 | 337 | 322 | na | na | 2.0 | 1.9 |
| Flow between ZOC 27 and ZOC 10 | 656 | 453 | na | na | 3.9 | 2.7 |
| Flow between ZOC 30 and ZOC 10 | 0 | 1,512 | na | na | 0 | 9.0 |
| Flow between ZOC 33 and ZOC 10 | 2,683 | 2,046 | na | na | 15.9 | 12.1 |
| Flow between ZOC 34 and ZOC 10 | 389 | 685 | na | na | 2.3 | 4.1 |
| Flow between ZOC 35 and ZOC 10 | 220 | 24 | na | na | 1.3 | .1 |
| Flow between ZOC 41 and ZOC 10 | 6 | 46 | na | na | 0 | .3 |
| Flow between ZOC 47 and ZOC 10 | 0 | 1 | na | na | 0 | 0 |
| Total | 16,843 | 16,844 | na | na | 100.0 | 100.0 |
| ZOC 11 - Includes well 11 | | | | | | |
| Constant head | 0 | 0 | 0 | 0 | 0 | 0 |
| Wells | 0 | 5,361 | 0 | 100.0 | 0 | 28.4 |
| Drains | 0 | 0 | 0 | 0 | 0 | 0 |
| River inflow/outflow | 0 | 0 | 0 | 0 | 0 | 0 |
| Head-dependent boundaries | 0 | 0 | 0 | 0 | 0 | 0 |
| Recharge from precipitation | 0 | 0 | 0 | 0 | 0 | 0 |
| Flow between ZOC 2 and ZOC 11 | 3,508 | 2,392 | na | na | 18.6 | 12.7 |
| Flow between ZOC 5 and ZOC 11 | 4,709 | 0 | na | na | 25.0 | 0 |
| Flow between ZOC 10 and ZOC 11 | 537 | 2,539 | na | na | 2.9 | 13.5 |
| Flow between ZOC 17 and ZOC 11 | 4,539 | 1,968 | na | na | 24.1 | 10.4 |
| Flow between ZOC 22 and ZOC 11 | 680 | 396 | na | na | 3.6 | 2.1 |
| Flow between ZOC 25 and ZOC 11 | 1,949 | 2,884 | na | na | 10.3 | 15.3 |
| Flow between ZOC 30 and ZOC 11 | 2,560 | 3,306 | na | na | 13.6 | 17.5 |
| Flow between ZOC 33 and ZOC 11 | 364 | 0 | na | na | 1.9 | 0 |
| Total | 18,846 | 18,846 | na | na | 100.0 | 100.0 |

Table 4. Flow budgets for individual zones of contribution to individual wells or groups of wells within the Independence, Missouri, well field—Continued

[Rounding of numbers in table may cause small discrepancies between the sum of the values in each column and column totals; ZOC, zone of contribution; m³/day, cubic meters per day; na, not applicable]

| Budget category (source, sink, or ZOC) | Inflow to ZOC (m ³ /day) | Outflow from ZOC (m ³ /day) | Sources and sinks within ZOC | | Sources and sinks within ZOC and flow between ZOCs | |
|---|---|---|--------------------------------------|-----------------------------------|--|-----------------------------------|
| | | | Percent inflow from sources | Percent outflow to sinks | Percent inflow from sources | Percent outflow to sinks |
| ZOC 12 - Includes well 12 | | | | | | |
| Constant head | 0 | 0 | 0 | 0 | 0 | 0 |
| Wells | 0 | 2,611 | 0 | 100.0 | 0 | 14.8 |
| Drains | 0 | 0 | 0 | 0 | 0 | 0 |
| River inflow/outflow | 12,424 | 0 | 99.9 | 0 | 70.5 | 0 |
| Head-dependent boundaries | 0 | 0 | 0 | 0 | 0 | 0 |
| Recharge from precipitation | 11 | 0 | .1 | 0 | .1 | 0 |
| Flow between ZOC 5 and ZOC 12 | 46 | 7 | na | na | .3 | 0 |
| Flow between ZOC 8 and ZOC 12 | 2,416 | 3,323 | na | na | 13.7 | 18.9 |
| Flow between ZOC 27 and ZOC 12 | 0 | 4,680 | na | na | 0 | 26.5 |
| Flow between ZOC 30 and ZOC 12 | 1,745 | 7,007 | na | na | 9.9 | 39.7 |
| Flow between ZOC 41 and ZOC 12 | 983 | 0 | na | na | 5.6 | 0 |
| Total | 17,625 | 17,629 | na | na | 100.0 | 100.0 |
| ZOC 14 - Includes wells 13 and 14 | | | | | | |
| Constant head | 0 | 0 | 0 | 0 | 0 | 0 |
| Wells | 0 | 4,583 | 0 | 100.0 | 0 | 30.9 |
| Drains | 0 | 0 | 0 | 0 | 0 | 0 |
| River inflow/outflow | 4,373 | 0 | 99.5 | 0 | 29.4 | 0 |
| Head-dependent boundaries | 0 | 0 | 0 | 0 | 0 | 0 |
| Recharge from precipitation | 23 | 0 | .5 | 0 | .2 | 0 |
| Flow between ZOC 1 and ZOC 14 | 25 | 65 | na | na | .2 | .4 |
| Flow between ZOC 2 and ZOC 14 | 0 | 137 | na | na | 0 | .9 |
| Flow between ZOC 15 and ZOC 14 | 4,861 | 1,666 | na | na | 32.7 | 11.2 |
| Flow between ZOC 17 and ZOC 14 | 5,195 | 7,499 | na | na | 34.9 | 50.5 |
| Flow between ZOC 25 and ZOC 14 | 296 | 303 | na | na | 2.0 | 2.0 |
| Flow between ZOC 32 and ZOC 14 | 7 | 338 | na | na | 0 | 2.3 |
| Flow between ZOC 47 and ZOC 14 | 87 | 257 | na | na | .6 | 1.7 |
| Total | 14,867 | 14,849 | na | na | 100.0 | 100.0 |
| ZOC 15 - Includes wells 15 and 23 | | | | | | |
| Constant head | 0 | 0 | 0 | 0 | 0 | 0 |
| Wells | 0 | 5,015 | 0 | 100.0 | 0 | 17.3 |
| Drains | 0 | 0 | 0 | 0 | 0 | 0 |
| River inflow/outflow | 14,103 | 0 | 99.9 | 0 | 48.6 | 0 |
| Head-dependent boundaries | 0 | 0 | 0 | 0 | 0 | 0 |
| Recharge from precipitation | 11 | 0 | .1 | 0 | 0 | 0 |
| Flow between ZOC 1 and ZOC 15 | 0 | 3 | na | na | 0 | 0 |

Table 4. Flow budgets for individual zones of contribution to individual wells or groups of wells within the Independence, Missouri, well field—Continued

[Rounding of numbers in table may cause small discrepancies between the sum of the values in each column and column totals; ZOC, zone of contribution; m³/day, cubic meters per day; na, not applicable]

| Budget category (source, sink, or ZOC) | Inflow to ZOC (m ³ /day) | Outflow from ZOC (m ³ /day) | Sources and sinks within ZOC | | Sources and sinks within ZOC and flow between ZOCs | |
|--|---|---|--------------------------------------|-----------------------------------|--|-----------------------------------|
| | | | Percent inflow from sources | Percent outflow to sinks | Percent inflow from sources | Percent outflow to sinks |
| ZOC 15 - Includes wells 15 and 23—Continued | | | | | | |
| Flow between ZOC 14 and ZOC 15 | 1,666 | 4,861 | na | na | 5.7 | 16.8 |
| Flow between ZOC 17 and ZOC 15 | 0 | 2,686 | na | na | 0 | 9.3 |
| Flow between ZOC 22 and ZOC 15 | 5,783 | 7,280 | na | na | 19.9 | 25.1 |
| Flow between ZOC 32 and ZOC 15 | 7,443 | 9,125 | na | na | 25.7 | 31.5 |
| Flow between ZOC 33 and ZOC 15 | 0 | 14 | na | na | 0 | 0 |
| Total | 29,006 | 28,983 | na | na | 100.0 | 100.0 |
| ZOC 17 - Includes wells 17 and 18 | | | | | | |
| Constant head | 0 | 0 | 0 | 0 | 0 | 0 |
| Wells | 0 | 5,984 | 0 | 100.0 | 0 | 35.5 |
| Drains | 0 | 0 | 0 | 0 | 0 | 0 |
| River inflow/outflow | 0 | 0 | 0 | 0 | 0 | 0 |
| Head-dependent boundaries | 0 | 0 | 0 | 0 | 0 | 0 |
| Recharge from precipitation | 0 | 0 | 0 | 0 | 0 | 0 |
| Flow between ZOC 2 and ZOC 17 | 2,087 | 0 | na | na | 12.4 | 0 |
| Flow between ZOC 10 and ZOC 17 | 20 | 60 | na | na | .1 | .4 |
| Flow between ZOC 11 and ZOC 17 | 1,968 | 4,539 | na | na | 11.7 | 26.9 |
| Flow between ZOC 14 and ZOC 17 | 7,499 | 5,195 | na | na | 44.5 | 30.8 |
| Flow between ZOC 15 and ZOC 17 | 2,686 | 0 | na | na | 15.9 | 0 |
| Flow between ZOC 22 and ZOC 17 | 8 | 976 | na | na | 0 | 5.8 |
| Flow between ZOC 25 and ZOC 17 | 2,585 | 99 | na | na | 15.3 | .6 |
| Total | 16,852 | 16,852 | na | na | 100.0 | 100.0 |
| ZOC 22 - Includes wells 19, 20, 21, and 22 | | | | | | |
| Constant head | 0 | 0 | 0 | 0 | 0 | 0 |
| Wells | 0 | 8,522 | 0 | 100.0 | 0 | 43.5 |
| Drains | 0 | 0 | 0 | 0 | 0 | 0 |
| River inflow/outflow | 6,442 | 0 | 98.2 | 0 | 32.9 | 0 |
| Head-dependent boundaries | 0 | 0 | 0 | 0 | 0 | 0 |
| Recharge from precipitation | 116 | 0 | 1.8 | 0 | .6 | 0 |
| Flow between ZOC 1 and ZOC 22 | 0 | 1 | na | na | 0 | 0 |
| Flow between ZOC 10 and ZOC 22 | 322 | 337 | na | na | 1.6 | 1.7 |
| Flow between ZOC 11 and ZOC 22 | 396 | 680 | na | na | 2.0 | 3.5 |
| Flow between ZOC 15 and ZOC 22 | 7,280 | 5,783 | na | na | 37.2 | 29.5 |
| Flow between ZOC 17 and ZOC 22 | 976 | 8 | na | na | 5.0 | 0 |
| Flow between ZOC 32 and ZOC 22 | 54 | 1,076 | na | na | .3 | 5.5 |
| Flow between ZOC 33 and ZOC 22 | 3,981 | 3,168 | na | na | 20.3 | 16.2 |
| Total | 19,565 | 19,573 | na | na | 100.0 | 100.0 |

Table 4. Flow budgets for individual zones of contribution to individual wells or groups of wells within the Independence, Missouri, well field—Continued

[Rounding of numbers in table may cause small discrepancies between the sum of the values in each column and column totals; ZOC, zone of contribution; m³/day, cubic meters per day; na, not applicable]

| Budget category (source, sink, or ZOC) | Inflow to ZOC (m ³ /day) | Outflow from ZOC (m ³ /day) | Sources and sinks within ZOC | | Sources and sinks within ZOC and flow between ZOCs | |
|--|---|---|--------------------------------------|-----------------------------------|--|-----------------------------------|
| | | | Percent inflow from sources | Percent outflow to sinks | Percent inflow from sources | Percent outflow to sinks |
| ZOC 25 - Includes well 1 | | | | | | |
| Constant head | 0 | 0 | 0 | 0 | 0 | 0 |
| Wells | 0 | 2,855 | 0 | 100.0 | 0 | 18.7 |
| Drains | 0 | 0 | 0 | 0 | 0 | 0 |
| River inflow/outflow | 10,905 | 0 | 99.9 | 0 | 71.2 | 0 |
| Head-dependent boundaries | 0 | 0 | 0 | 0 | 0 | 0 |
| Recharge from precipitation | 11 | 0 | .1 | 0 | .1 | 0 |
| Flow between ZOC 2 and ZOC 25 | 1,110 | 7,594 | na | na | 7.2 | 49.7 |
| Flow between ZOC 11 and ZOC 25 | 2,884 | 1,949 | na | na | 18.8 | 12.8 |
| Flow between ZOC 14 and ZOC 25 | 303 | 296 | na | na | 2.0 | 1.9 |
| Flow between ZOC 17 and ZOC 25 | 99 | 2,585 | na | na | .6 | 16.9 |
| Total | 15,312 | 15,279 | na | na | 100.0 | 100.0 |
| ZOC 27 - Includes wells 3, 24, and 27 | | | | | | |
| Constant head | 0 | 0 | 0 | 0 | 0 | 0 |
| Wells | 0 | 7,076 | 0 | 100.0 | 0 | 46.8 |
| Drains | 0 | 0 | 0 | 0 | 0 | 0 |
| River inflow/outflow | 1,937 | 0 | 99.0 | 0 | 12.8 | 0 |
| Head-dependent boundaries | 0 | 0 | 0 | 0 | 0 | 0 |
| Recharge from precipitation | 19 | 0 | 1.0 | 0 | .1 | 0 |
| Flow between ZOC 8 and ZOC 27 | 4,400 | 7,390 | na | na | 29.1 | 48.9 |
| Flow between ZOC 10 and ZOC 27 | 453 | 656 | na | na | 3.0 | 4.3 |
| Flow between ZOC 12 and ZOC 27 | 4,680 | 0 | na | na | 30.9 | 0 |
| Flow between ZOC 41 and ZOC 27 | 3,633 | 0 | na | na | 24.0 | 0 |
| Total | 15,122 | 15,122 | na | na | 100.0 | 100.0 |
| ZOC 30 - Includes wells 6 and 30 | | | | | | |
| Constant head | 0 | 0 | 0 | 0 | 0 | 0 |
| Wells | 0 | 10,580 | 0 | 100.0 | 0 | 54.0 |
| Drains | 0 | 0 | 0 | 0 | 0 | 0 |
| River inflow/outflow | 0 | 0 | 0 | 0 | 0 | 0 |
| Head-dependent boundaries | 0 | 0 | 0 | 0 | 0 | 0 |
| Recharge from precipitation | 0 | 0 | 0 | 0 | 0 | 0 |
| Flow between ZOC 2 and ZOC 30 | 1,682 | 0 | na | na | 8.6 | 0 |
| Flow between ZOC 5 and ZOC 30 | 4,705 | 0 | na | na | 24.0 | 0 |
| Flow between ZOC 8 and ZOC 30 | 1,212 | 4,703 | na | na | 6.2 | 24.0 |
| Flow between ZOC 10 and ZOC 30 | 1,512 | 0 | na | na | 7.7 | 0 |
| Flow between ZOC 11 and ZOC 30 | 3,306 | 2,560 | na | na | 16.9 | 13.1 |

Table 4. Flow budgets for individual zones of contribution to individual wells or groups of wells within the Independence, Missouri, well field—Continued

[Rounding of numbers in table may cause small discrepancies between the sum of the values in each column and column totals; ZOC, zone of contribution; m³/day, cubic meters per day; na, not applicable]

| Budget category (source, sink, or ZOC) | Inflow to ZOC (m ³ /day) | Outflow from ZOC (m ³ /day) | Sources and sinks within ZOC | | Sources and sinks within ZOC and flow between ZOCs | |
|---|---|---|--------------------------------------|-----------------------------------|--|-----------------------------------|
| | | | Percent inflow from sources | Percent outflow to sinks | Percent inflow from sources | Percent outflow to sinks |
| ZOC 30 - Includes wells 6 and 30—Continued | | | | | | |
| Flow between ZOC 12 and ZOC 30 | 7,007 | 1,745 | na | na | 35.8 | 8.9 |
| Flow between ZOC 41 and ZOC 30 | 164 | 0 | na | na | .8 | 0 |
| Total | 19,588 | 19,588 | na | na | 100.0 | 100.0 |
| ZOC 32 - Includes wells 16 and 32 | | | | | | |
| Constant head | 0 | 0 | 0 | 0 | 0 | 0 |
| Wells | 0 | 8,622 | 0 | 100.0 | 0 | 53.2 |
| Drains | 0 | 0 | 0 | 0 | 0 | 0 |
| River inflow/outflow | 5,506 | 0 | 99.6 | 0 | 34.0 | 0 |
| Head-dependent boundaries | 0 | 0 | 0 | 0 | 0 | 0 |
| Recharge from precipitation | 23 | 0 | .4 | 0 | .1 | 0 |
| Flow between ZOC 14 and ZOC 32 | 338 | 7 | na | na | 2.1 | 0 |
| Flow between ZOC 15 and ZOC 32 | 9,125 | 7,443 | na | na | 56.3 | 46.0 |
| Flow between ZOC 22 and ZOC 32 | 1,076 | 54 | na | na | 6.6 | .3 |
| Flow between ZOC 43 and ZOC 32 | 0 | 0 | na | na | 0 | 0 |
| Flow between ZOC 47 and ZOC 32 | 136 | 68 | na | na | .8 | .4 |
| Total | 16,204 | 16,194 | na | na | 100.0 | 100.0 |
| ZOC 33 - Includes well 33 | | | | | | |
| Constant head | 0 | 0 | 0 | 0 | 0 | 0 |
| Wells | 0 | 1,750 | 0 | 100.0 | 0 | 14.8 |
| Drains | 0 | 0 | 0 | 0 | 0 | 0 |
| River inflow/outflow | 4,467 | 0 | 99.7 | 0 | 37.7 | 0 |
| Head-dependent boundaries | 0 | 0 | 0 | 0 | 0 | 0 |
| Recharge from precipitation | 11 | 0 | .3 | 0 | .1 | 0 |
| Flow between ZOC 10 and ZOC 33 | 2,046 | 2,683 | na | na | 17.3 | 22.7 |
| Flow between ZOC 11 and ZOC 33 | 0 | 364 | na | na | 0 | 3.1 |
| Flow between ZOC 15 and ZOC 33 | 14 | 0 | na | na | .1 | 0 |
| Flow between ZOC 22 and ZOC 33 | 3,168 | 3,981 | na | na | 26.8 | 33.6 |
| Flow between ZOC 34 and ZOC 33 | 2,117 | 1,206 | na | na | 17.9 | 10.2 |
| Flow between ZOC 35 and ZOC 33 | 14 | 1,853 | na | na | .1 | 15.7 |
| Flow between ZOC 36 and ZOC 33 | 3 | 0 | na | na | 0 | 0 |
| Flow between ZOC 43 and ZOC 33 | 0 | 0 | na | na | 0 | 0 |
| Total | 11,840 | 11,837 | na | na | 100.0 | 100.0 |

Table 4. Flow budgets for individual zones of contribution to individual wells or groups of wells within the Independence, Missouri, well field—Continued

[Rounding of numbers in table may cause small discrepancies between the sum of the values in each column and column totals; ZOC, zone of contribution; m³/day, cubic meters per day; na, not applicable]

| Budget category (source, sink, or ZOC) | Inflow to ZOC (m ³ /day) | Outflow from ZOC (m ³ /day) | Sources and sinks within ZOC | | Sources and sinks within ZOC and flow between ZOCs | |
|---|---|---|--------------------------------------|-----------------------------------|--|-----------------------------------|
| | | | Percent inflow from sources | Percent outflow to sinks | Percent inflow from sources | Percent outflow to sinks |
| ZOC 34 - Includes well 34 | | | | | | |
| Constant head | 0 | 0 | 0 | 0 | 0 | 0 |
| Wells | 0 | 1,787 | 0 | 100.0 | 0 | 29.3 |
| Drains | 0 | 0 | 0 | 0 | 0 | 0 |
| River inflow/outflow | 1,102 | 0 | 70.7 | 0 | 18.0 | 0 |
| Head-dependent boundaries | 0 | 0 | 0 | 0 | 0 | 0 |
| Recharge from precipitation | 456 | 0 | 29.3 | 0 | 7.4 | 0 |
| Flow between ZOC 1 and ZOC 34 | 119 | 114 | na | na | 2.0 | 1.9 |
| Flow between ZOC 10 and ZOC 34 | 685 | 389 | na | na | 11.2 | 6.4 |
| Flow between ZOC 33 and ZOC 34 | 1,206 | 2,117 | na | na | 19.7 | 34.7 |
| Flow between ZOC 35 and ZOC 34 | 2,414 | 1,512 | na | na | 39.5 | 24.8 |
| Flow between ZOC 40 and ZOC 34 | 134 | 179 | na | na | 2.2 | 2.9 |
| Total | 6,116 | 6,098 | na | na | 100.0 | 100.0 |
| ZOC 35 - Includes well 35 | | | | | | |
| Constant head | 0 | 0 | 0 | 0 | 0 | 0 |
| Wells | 0 | 2,003 | 0 | 100.0 | 0 | 28.8 |
| Drains | 0 | 0 | 0 | 0 | 0 | 0 |
| River inflow/outflow | 1,613 | 0 | 88.8 | 0 | 23.2 | 0 |
| Head-dependent boundaries | 0 | 0 | 0 | 0 | 0 | 0 |
| Recharge from precipitation | 203 | 0 | 11.2 | 0 | 2.9 | 0 |
| Flow between ZOC 1 and ZOC 35 | 2 | 0 | na | na | 0 | 0 |
| Flow between ZOC 10 and ZOC 35 | 24 | 220 | na | na | .3 | 3.2 |
| Flow between ZOC 33 and ZOC 35 | 1,853 | 14 | na | na | 26.6 | .2 |
| Flow between ZOC 34 and ZOC 35 | 1,512 | 2,414 | na | na | 21.7 | 34.7 |
| Flow between ZOC 36 and ZOC 35 | 1,368 | 1,202 | na | na | 19.6 | 17.3 |
| Flow between ZOC 38 and ZOC 35 | 99 | 658 | na | na | 1.4 | 9.5 |
| Flow between ZOC 39 and ZOC 35 | 164 | 30 | na | na | 2.4 | .4 |
| Flow between ZOC 40 and ZOC 35 | 126 | 418 | na | na | 1.8 | 6.0 |
| Flow between ZOC 43 and ZOC 35 | 0 | 6 | na | na | 0 | .1 |
| Total | 6,964 | 6,965 | na | na | 100.0 | 100.0 |
| ZOC 36 - Includes well 36 | | | | | | |
| Constant head | 0 | 0 | 0 | 0 | 0 | 0 |
| Wells | 0 | 2,309 | 0 | 100.0 | 0 | 62.0 |
| Drains | 0 | 0 | 0 | 0 | 0 | 0 |
| River inflow/outflow | 2,485 | 0 | 99.1 | 0 | 66.4 | 0 |
| Head-dependent boundaries | 0 | 0 | 0 | 0 | 0 | 0 |

Table 4. Flow budgets for individual zones of contribution to individual wells or groups of wells within the Independence, Missouri, well field—Continued

[Rounding of numbers in table may cause small discrepancies between the sum of the values in each column and column totals; ZOC, zone of contribution; m³/day, cubic meters per day; na, not applicable]

| Budget category (source, sink, or ZOC) | Inflow to ZOC (m ³ /day) | Outflow from ZOC (m ³ /day) | Sources and sinks within ZOC | | Sources and sinks within ZOC and flow between ZOCs | |
|--|---|---|--------------------------------------|-----------------------------------|--|-----------------------------------|
| | | | Percent inflow from sources | Percent outflow to sinks | Percent inflow from sources | Percent outflow to sinks |
| ZOC 36 - Includes well 36—Continued | | | | | | |
| Recharge from precipitation | 23 | 0 | 0.9 | 0 | 0.6 | 0 |
| Flow between ZOC 1 and ZOC 36 | 1 | 0 | na | na | 0 | 0 |
| Flow between ZOC 33 and ZOC 36 | 0 | 3 | na | na | 0 | .1 |
| Flow between ZOC 35 and ZOC 36 | 1,202 | 1,368 | na | na | 32.1 | 36.7 |
| Flow between ZOC 39 and ZOC 36 | 31 | 46 | na | na | .8 | 1.2 |
| Flow between ZOC 43 and ZOC 36 | 1 | 2 | na | na | 0 | 0 |
| Total | 3,742 | 3,727 | na | na | 100.0 | 100.0 |
| ZOC 38 - Includes well 38 | | | | | | |
| Constant head | 0 | 0 | 0 | 0 | 0 | 0 |
| Wells | 0 | 2,137 | 0 | 100.0 | 0 | 86.9 |
| Drains | 0 | 0 | 0 | 0 | 0 | 0 |
| River inflow/outflow | 1,765 | 0 | 99.4 | 0 | 71.6 | 0 |
| Head-dependent boundaries | 0 | 0 | 0 | 0 | 0 | 0 |
| Recharge from precipitation | 11 | 0 | .6 | 0 | .5 | 0 |
| Flow between ZOC 1 and ZOC 38 | 2 | 0 | na | na | .1 | 0 |
| Flow between ZOC 35 and ZOC 38 | 658 | 99 | na | na | 26.7 | 4.0 |
| Flow between ZOC 39 and ZOC 38 | 28 | 213 | na | na | 1.1 | 8.6 |
| Flow between ZOC 40 and ZOC 38 | 0 | 11 | na | na | 0 | .5 |
| Total | 2,464 | 2,460 | na | na | 100.0 | 100.0 |
| ZOC 39 - Includes well 39 | | | | | | |
| Constant head | 0 | 0 | 0 | 0 | 0 | 0 |
| Wells | 0 | 2,003 | 0 | 100.0 | 0 | 90.0 |
| Drains | 0 | 0 | 0 | 0 | 0 | 0 |
| River inflow/outflow | 1,924 | 0 | 99.4 | 0 | 86.5 | 0 |
| Head-dependent boundaries | 0 | 0 | 0 | 0 | 0 | 0 |
| Recharge from precipitation | 11 | 0 | .6 | 0 | .5 | 0 |
| Flow between ZOC 1 and ZOC 39 | 2 | 0 | na | na | .1 | 0 |
| Flow between ZOC 35 and ZOC 39 | 30 | 164 | na | na | 1.3 | 7.4 |
| Flow between ZOC 36 and ZOC 39 | 46 | 31 | na | na | 2.0 | 1.4 |
| Flow between ZOC 38 and ZOC 39 | 213 | 28 | na | na | 9.6 | 1.2 |
| Total | 2,226 | 2,226 | na | na | 100.0 | 100.0 |

Table 4. Flow budgets for individual zones of contribution to individual wells or groups of wells within the Independence, Missouri, well field—Continued

[Rounding of numbers in table may cause small discrepancies between the sum of the values in each column and column totals; ZOC, zone of contribution; m³/day, cubic meters per day; na, not applicable]

| Budget category (source, sink, or ZOC) | Inflow to ZOC (m ³ /day) | Outflow from ZOC (m ³ /day) | Sources and sinks within ZOC | | Sources and sinks within ZOC and flow between ZOCs | |
|---|---|---|--------------------------------------|-----------------------------------|--|-----------------------------------|
| | | | Percent inflow from sources | Percent outflow to sinks | Percent inflow from sources | Percent outflow to sinks |
| ZOC 40 - Includes well 40 | | | | | | |
| Constant head | 0 | 0 | 0 | 0 | 0 | 0 |
| Wells | 0 | 1,989 | 0 | 100.0 | 0 | 88.4 |
| Drains | 0 | 0 | 0 | 0 | 0 | 0 |
| River inflow/outflow | 1,609 | 0 | 97.3 | 0 | 71.1 | 0 |
| Head-dependent boundaries | 0 | 0 | 0 | 0 | 0 | 0 |
| Recharge from precipitation | 45 | 0 | 2.7 | 0 | 2.0 | 0 |
| Flow between ZOC 1 and ZOC 40 | 1 | 0 | na | na | .1 | 0 |
| Flow between ZOC 34 and ZOC 40 | 179 | 134 | na | na | 7.9 | 6.0 |
| Flow between ZOC 35 and ZOC 40 | 418 | 126 | na | na | 18.5 | 5.6 |
| Flow between ZOC 38 and ZOC 40 | 11 | 0 | na | na | .5 | 0 |
| Total | 2,263 | 2,249 | na | na | 100.0 | 100.0 |
| ZOC 41 - Includes well 41 | | | | | | |
| Constant head | 0 | 0 | 0 | 0 | 0 | 0 |
| Wells | 0 | 18,083 | 0 | 100.0 | 0 | 75.3 |
| Drains | 0 | 0 | 0 | 0 | 0 | 0 |
| River inflow/outflow | 23,030 | 0 | 99.6 | 0 | 95.8 | 0 |
| Head-dependent boundaries | 0 | 0 | 0 | 0 | 0 | 0 |
| Recharge from precipitation | 85 | 0 | .4 | 0 | .4 | 0 |
| Flow between ZOC 1 and ZOC 41 | 816 | 1,147 | na | na | 3.4 | 4.8 |
| Flow between ZOC 8 and ZOC 41 | 57 | 10 | na | na | .2 | 0 |
| Flow between ZOC 10 and ZOC 41 | 46 | 6 | na | na | .2 | 0 |
| Flow between ZOC 12 and ZOC 41 | 0 | 983 | na | na | 0 | 4.1 |
| Flow between ZOC 27 and ZOC 41 | 0 | 3,633 | na | na | 0 | 15.1 |
| Flow between ZOC 30 and ZOC 41 | 0 | 164 | na | na | 0 | .7 |
| Total | 24,034 | 24,026 | na | na | 100.0 | 100.0 |
| ZOC 43 - Includes well 43 | | | | | | |
| Constant head | 0 | 0 | 0 | 0 | 0 | 0 |
| Wells | 0 | 2,900 | 0 | 100.0 | 0 | 28.7 |
| Drains | 0 | 0 | 0 | 0 | 0 | 0 |
| River inflow/outflow | 1,210 | 0 | 49.6 | 0 | 11.9 | 0 |
| Head-dependent boundaries | 0 | 0 | 0 | 0 | 0 | 0 |
| Recharge from precipitation | 1,228 | 0 | 50.4 | 0 | 12.1 | 0 |
| Flow between ZOC 1 and ZOC 43 | 1,139 | 1,335 | na | na | 11.2 | 13.2 |
| Flow between ZOC 32 and ZOC 43 | 0 | 0 | na | na | 0 | 0 |
| Flow between ZOC 33 and ZOC 43 | 0 | 0 | na | na | 0 | 0 |

Table 4. Flow budgets for individual zones of contribution to individual wells or groups of wells within the Independence, Missouri, well field—Continued

[Rounding of numbers in table may cause small discrepancies between the sum of the values in each column and column totals; ZOC, zone of contribution; m³/day, cubic meters per day; na, not applicable]

| Budget category (source, sink, or ZOC) | Inflow to ZOC (m ³ /day) | Outflow from ZOC (m ³ /day) | Sources and sinks within ZOC | | Sources and sinks within ZOC and flow between ZOCs | |
|--|---|---|--------------------------------------|-----------------------------------|--|-----------------------------------|
| | | | Percent inflow from sources | Percent outflow to sinks | Percent inflow from sources | Percent outflow to sinks |
| ZOC 43 - Includes well 43—Continued | | | | | | |
| Flow between ZOC 35 and ZOC 43 | 6 | 0 | na | na | 0.1 | 0 |
| Flow between ZOC 36 and ZOC 43 | 2 | 1 | na | na | 0 | 0 |
| Flow between ZOC 47 and ZOC 43 | 4,478 | 4,154 | na | na | 44.2 | 41.0 |
| Flow between ZOC 49 and ZOC 43 | 2,066 | 1,729 | na | na | 20.4 | 17.1 |
| Total | 10,129 | 10,119 | na | na | 100.0 | 100.0 |
| ZOC 47 - Includes well 47 | | | | | | |
| Constant head | 0 | 0 | 0 | 0 | 0 | 0 |
| Wells | 0 | 2,900 | 0 | 100.0 | 0 | 30.9 |
| Drains | 0 | 0 | 0 | 0 | 0 | 0 |
| River inflow/outflow | 909 | 0 | 30.1 | 0 | 9.7 | 0 |
| Head-dependent boundaries | 0 | 0 | 0 | 0 | 0 | 0 |
| Recharge from precipitation | 2,111 | 0 | 69.9 | 0 | 22.5 | 0 |
| Flow between ZOC 1 and ZOC 47 | 1,725 | 1,568 | na | na | 18.4 | 16.7 |
| Flow between ZOC 2 and ZOC 47 | 65 | 59 | na | na | .7 | .6 |
| Flow between ZOC 5 and ZOC 47 | 94 | 0 | na | na | 1.0 | 0 |
| Flow between ZOC 10 and ZOC 47 | 1 | 0 | na | na | 0 | 0 |
| Flow between ZOC 14 and ZOC 47 | 257 | 87 | na | na | 2.7 | .9 |
| Flow between ZOC 32 and ZOC 47 | 68 | 136 | na | na | .7 | 1.5 |
| Flow between ZOC 43 and ZOC 47 | 4,154 | 4,478 | na | na | 44.3 | 47.7 |
| Flow between ZOC 49 and ZOC 47 | 0 | 157 | na | na | 0 | 1.7 |
| Total | 9,384 | 9,385 | na | na | 100.0 | 100.0 |
| ZOC 49 - Includes well 49 | | | | | | |
| Constant head | 0 | 0 | 0 | 0 | 0 | 0 |
| Wells | 0 | 2,900 | 0 | 100.0 | 0 | 39.5 |
| Drains | 0 | 0 | 0 | 0 | 0 | 0 |
| River inflow/outflow | 0 | 0 | 0 | 0 | 0 | 0 |
| Head-dependent boundaries | 0 | 0 | 0 | 0 | 0 | 0 |
| Recharge from precipitation | 2,873 | 0 | 100.0 | 0 | 39.1 | 0 |
| Flow between ZOC 1 and ZOC 49 | 2,585 | 2,377 | na | na | 35.2 | 32.4 |
| Flow between ZOC 43 and ZOC 49 | 1,729 | 2,066 | na | na | 23.5 | 28.1 |
| Flow between ZOC 47 and ZOC 49 | 157 | 0 | na | na | 2.1 | 0 |
| Total | 7,344 | 7,343 | na | na | 100.0 | 100.0 |

