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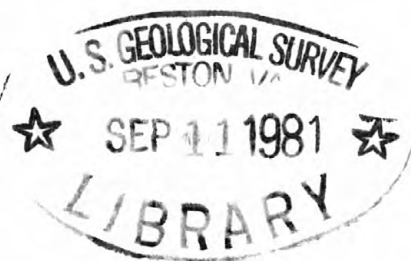
CHEMICAL ANALYSES OF SELECTED  
AGRICULTURAL SOILS OF MISSOURI

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By

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# Chemical analyses of selected agricultural soils of Missouri

by

Josephine G. Boerngen and Ronald R. Tidball

## Introduction

This report contains a compilation of chemical data for samples of the plow zone of agricultural soils that were collected in 1970 from each of the 114 counties of the State of Missouri. Most of the principal taxonomic soil types that occur in each county are represented by the 10 samples per county that were collected. There are numerous examples of soils that were developed from each of the several parent-material types in the State.

Each soil sample is a composite of several channel samples collected throughout a field from a depth 0-15cm. Soil material that passed a 2mm sieve was ground in a ceramic mill to -100 mesh and then analyzed for total concentrations of 70 elements. The methods of analysis and the lower limits of determination for each element are given in table 1. Most methods were described by Miesch (1976); delayed neutron counting for uranium and thorium was described by Millard (1976). The limits of determination for the methods did not always encompass the natural range of element concentrations in some samples, thus the elements may be classed into three groups: never detected, rarely detected, and frequently detected.

Table 1.--List of elements looked for, methods of analysis,  
and lower limits of determination

| Element       | Analytical Method                         | Lower Limit of Determination<br>parts per million |
|---------------|-------------------------------------------|---------------------------------------------------|
| Ag-----       | Spectrographic                            | 0.5                                               |
| Al-----       | X-ray fluorescence                        | 10,000                                            |
| As-----       | Spectrophotometric                        | 1                                                 |
| Au*-----      | Spectrographic                            | 20                                                |
| B-----        | Spectrographic                            | 20                                                |
| Ba-----       | Spectrographic                            | 2                                                 |
| Be-----       | Spectrographic                            | 1                                                 |
| Bi*-----      | Spectrographic                            | 10                                                |
| C (total)--   | Induction Furnace                         | 500                                               |
| C (inorganic) | Gasometric                                | 100                                               |
| C (organic)   | Difference between total and<br>inorganic | 1,000                                             |
| Ca-----       | X-ray fluorescence                        | 150                                               |
| Cd-----       | Atomic absorption                         | 1                                                 |
| Ce-----       | Spectrographic                            | 150                                               |
| Co-----       | Spectrographic                            | 3                                                 |
| Cr-----       | Spectrographic                            | 1                                                 |
| Cu-----       | Spectrographic                            | 1                                                 |
| Dy*-----      | Spectrographic                            | 50                                                |
| Er*-----      | Spectrographic                            | 50                                                |
| Eu*-----      | Spectrographic                            | 100                                               |
| F-----        | Selective ion electrode                   | 40                                                |
| Fe-----       | X-ray fluorescence                        | 150                                               |
| Ga-----       | Spectrographic                            | 5                                                 |
| Gd*-----      | Spectrographic                            | 50                                                |
| Ge*-----      | Spectrographic                            | 10                                                |
| Hf*-----      | Spectrographic                            | 100                                               |
| Hg-----       | Instrumental atomic absorption            | .01                                               |
| Ho*-----      | Spectrographic                            | 20                                                |
| I-----        | Neutron activation                        | .05                                               |
| In*-----      | Spectrographic                            | 10                                                |
| Ir*-----      | Spectrographic                            | 50                                                |
| K-----        | X-ray fluorescence                        | 200                                               |
| La-----       | Spectrographic                            | 30                                                |
| Li-----       | Atomic absorption                         | 5                                                 |
| Lu*-----      | Spectrographic                            | 30                                                |
| Mg-----       | Atomic absorption                         | 200                                               |
| Mn-----       | Spectrographic                            | 1                                                 |
| Mo-----       | Spectrographic                            | 3                                                 |
| Na-----       | Atomic absorption                         | 80                                                |
| Nb-----       | Spectrographic                            | 10                                                |
| Nd-----       | Spectrographic                            | 70                                                |
| Ni-----       | Spectrographic                            | 5                                                 |



Table 1.--List of elements looked for, methods of analysis,  
and lower limits of determination--Continued

| Element  | Analytical Method  | Lower Limit of Determination<br>parts per million |
|----------|--------------------|---------------------------------------------------|
| Os*----- | Spectrographic     | 50                                                |
| P-----   | X-ray fluorescence | 500                                               |
| Pb-----  | Spectrographic     | 10                                                |
| Pd*----- | Spectrographic     | 2                                                 |
| Pr*----- | Spectrographic     | 100                                               |
| Pt*----- | Spectrographic     | 50                                                |
| Re*----- | Spectrographic     | 50                                                |
| Rh*----- | Spectrographic     | 2                                                 |
| Ru*----- | Spectrographic     | 10                                                |
| Sb*----- | Spectrographic     | 200                                               |
| Sc-----  | Spectrographic     | 5                                                 |
| Se-----  | X-ray fluorescence | .1                                                |
| Si-----  | X-ray fluorescence | 1,000                                             |
| Sm*----- | Spectrographic     | 100                                               |
| Sn-----  | Spectrographic     | 10                                                |
| Sr-----  | Spectrographic     | 5                                                 |
| Ta*----- | Spectrographic     | 500                                               |
| Tb*----- | Spectrographic     | 300                                               |
| Te*----- | Spectrographic     | 2,000                                             |
| Th-----  | Neutron activation | 1.2                                               |
| Ti-----  | Spectrographic     | 2                                                 |
| Tl*----- | Spectrographic     | 50                                                |
| Tm*----- | Spectrographic     | 20                                                |
| U-----   | Neutron activation | .1                                                |
| V-----   | Spectrographic     | 7                                                 |
| W*-----  | Spectrographic     | 100                                               |
| Y-----   | Spectrographic     | 10                                                |
| Yb-----  | Spectrographic     | 1                                                 |
| Zn-----  | Atomic absorption  | 10                                                |
| Zr-----  | Spectrographic     | 10                                                |

\*The element has been looked for but the range of concentrations in most common soils is below the lower limit of determination for the method and no data are available; or the element has not been looked for because associated indicator elements were not detected.

There were 27 elements that were either never detected because the concentrations were too low or were not looked for because certain associated indicator elements were not detected. If cerium and lanthanum were found, then europium, neodymium, praseodymium, and samarium were looked for. If yttrium was found in concentrations greater than 50 parts per million, then the following elements were looked for: dysprosium, erbium, gadolinium, holmium, lutetium, terbium, and thulium. If palladium and plutonium were found, then iridium, osmium, rhodium, and ruthenium were looked for. Elements that were never detected are indicated in table 1 with an asterisk.

Elements that were rarely detected include cadmium, molybdenum, silver, and tin. The samples that contain measurable amounts of these elements and their locations are given in table 2.

There are 39 elements (plus two additional forms of carbon) that are frequently detected. The locations and data for these elements are arranged alphabetically by counties in table 3. Only a limited number of samples were analyzed for iodine, thorium, and uranium.

Table 2.--Samples, locations, and concentrations of rarely detected elements  
in agricultural soils of Missouri

[Concentrations are reported in parts per million. Latitudes (north) and longitudes (west) are in degrees, minutes, and seconds]

| Sample No. | County       | Latitude | Longitude | Concentration |
|------------|--------------|----------|-----------|---------------|
| Cadmium    |              |          |           |               |
| D146210    | Benton       | 38 7 1   | 93 4 58   | 6             |
| D146358    | Cass         | 38 28 1  | 94 9 0    | 1             |
| D146517    | Clinton      | 39 30 14 | 94 26 31  | 1             |
| D145999    | Jefferson    | 38 2 31  | 90 34 58  | 11            |
| D146255    | Monroe       | 39 21 0  | 91 45 0   | 3             |
| D145910    | Ozark        | 36 36 0  | 92 18 0   | 1             |
| D145940    | Platte       | 39 31 58 | 94 40 58  | 1             |
| D146084    | Platte       | 39 28 1  | 94 43 58  | 1.5           |
| D145816    | Platte       | 39 17 45 | 94 39 0   | 1             |
| D146402    | Ray          | 39 16 58 | 93 53 31  | 1             |
| D146425    | St. Francois | 38 0 14  | 90 34 1   | 5             |
| D146539    | Taney        | 36 43 58 | 92 54 0   | 1             |
| Molybdenum |              |          |           |               |
| D146462    | Carter       | 37 3 43  | 90 59 13  | 3             |
| D146398    | Carter       | 36 49 30 | 90 48 0   | 3             |
| D146592    | Christian    | 36 58 58 | 93 7 58   | 3             |
| D146512    | De Kalb      | 39 46 1  | 94 22 15  | 3             |
| D146359    | Harrison     | 40 9 28  | 94 1 58   | 7             |
| D145580    | Howard       | 39 19 1  | 92 41 31  | 3             |
| D146559    | Howell       | 36 37 1  | 91 52 1   | 3             |
| D146420    | Knox         | 40 4 44  | 92 16 1   | 3             |
| D146417    | McDonald     | 36 32 31 | 94 15 0   | 3             |
| D146255    | Monroe       | 39 21 0  | 91 45 0   | 5             |
| D146233    | Ozark        | 36 45 0  | 92 12 57  | 5             |
| D146045    | Putnam       | 40 28 58 | 93 4 58   | 3             |
| D146198    | St. Clair    | 38 12 0  | 93 56 31  | 3             |
| D145529    | Stoddard     | 36 45 28 | 90 7 58   | 3             |
| D146223    | Stone        | 36 55 30 | 93 22 1   | 10            |
| D146230    | Texas        | 37 9 0   | 92 7 30   | 15            |

Table 2.--Samples, locations, and concentrations of rarely-detected elements  
in agricultural soils of Missouri--Continued

| Sample No. | County       | Latitude | Longitude | Concentration |
|------------|--------------|----------|-----------|---------------|
| Silver     |              |          |           |               |
| D145804    | Gasconade    | 38 15 28 | 91 29 31  | 1.5           |
| D145999    | Jefferson    | 38 2 31  | 90 34 58  | .7            |
| D146019    | Laclede      | 37 40 1  | 92 39 28  | 3             |
| D145995    | Sullivan     | 40 12 0  | 93 15 57  | .7            |
| Tin        |              |          |           |               |
| D145731    | Cole         | 38 31 58 | 92 26 31  | 15            |
| D145428    | Dallas       | 37 51 0  | 93 1 58   | 30            |
| D145662    | Greene       | 37 9 43  | 93 5 45   | 15            |
| D145785    | Lincoln      | 39 6 28  | 91 14 45  | 15            |
| D145595    | Maries       | 38 9 0   | 92 9 0    | 15            |
| D145820    | Reynolds     | 37 34 1  | 91 13 58  | 50            |
| D145671    | St. Francois | 37 49 1  | 90 30 28  | 15            |
| D145441    | Shannon      | 36 56 31 | 91 26 31  | 15            |
| D145835    | Sullivan     | 40 6 0   | 93 3 0    | 15            |

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- Millard, H. T., Jr., 1976, Determination of uranium and thorium in USGS standard rocks by delayed neutron technique, in Flanagan, F. J., ed., Description and analyses of eight new USGS rock standards: U.S. Geological Survey Professional Paper 840, p. 61-65.

Table 3.--Locations and concentrations of frequently detected  
elements for agricultural soils of Missouri

[Leaders (--), no data available; <, less than the stated value; >, greater than the stated value; N, looked for but not detected. Values are reported in ppm, parts per million, or in %, percent. Latitudes (north) and longitudes (west) are in degrees, minutes, and seconds]

Table 3.--Locations and concentrations of frequently detected elements for agricultural soils of Missouri

| Sample          | Latitude | Longitude | Al % | As ppm | B ppm | Ba ppm | Be ppm | C %  | C org. % | C crb. % | Ca % |
|-----------------|----------|-----------|------|--------|-------|--------|--------|------|----------|----------|------|
| Adair County    |          |           |      |        |       |        |        |      |          |          |      |
| 146319          | 40 19 30 | 92 31 15  | 4    | 11.0   | 50    | 1,000  | 1.5    | 1.42 | 1.4      | .01      | .4   |
| 146346          | 40 4 58  | 92 25 30  | 4    | 10.0   | 30    | 700    | 1.0    | 1.71 | 1.7      | <.01     | .4   |
| 146082          | 40 18 43 | 92 37 44  | 4    | 8.1    | 30    | 700    | <1.0   | 1.13 | 1.1      | .03      | .4   |
| 146380          | 40 7 1   | 92 27 0   | 5    | 12.0   | 30    | 700    | 1.0    | 1.82 | 1.8      | .01      | .4   |
| 145893          | 40 14 45 | 92 33 43  | 4    | 11.0   | 30    | 700    | <1.0   | 2.28 | 2.2      | .04      | .9   |
| 145864          | 40 16 1  | 92 26 13  | 4    | 8.2    | 30    | 300    | 1.5    | 1.64 | 1.6      | .01      | .4   |
| 146414          | 40 4 58  | 92 30 28  | 5    | 16.0   | 30    | 500    | 1.5    | 1.27 | 1.2      | .07      | .4   |
| 145512          | 40 16 58 | 92 46 30  | 4    | 7.3    | 30    | 700    | 1.0    | 1.54 | 1.5      | .07      | .5   |
| 146125          | 40 13 1  | 92 49 53  | 5    | 14.0   | 30    | 700    | 1.0    | 2.09 | 2.1      | .01      | .6   |
| 146156          | 40 7 30  | 92 48 46  | 3    | 8.0    | 30    | 500    | <1.0   | 1.25 | 1.2      | .01      | .4   |
| Andrew County   |          |           |      |        |       |        |        |      |          |          |      |
| 145573          | 40 6 0   | 94 46 30  | 4    | 8.2    | 30    | 700    | 1.0    | 1.70 | 1.6      | .07      | .4   |
| 145681          | 40 3 0   | 94 52 58  | 6    | 9.6    | 30    | 700    | 1.5    | 1.45 | 1.4      | .03      | .6   |
| 145467          | 40 1 58  | 94 58 44  | 6    | 9.2    | 30    | 1,000  | N      | 2.63 | 2.6      | .09      | .7   |
| 146159          | 39 58 1  | 94 55 15  | 6    | 12.0   | 30    | 700    | <1.0   | 1.44 | 1.4      | .02      | .6   |
| 145787          | 40 2 13  | 94 37 30  | 5    | 13.0   | 30    | 700    | 1.5    | 2.30 | 2.2      | .07      | .5   |
| 146095          | 39 55 30 | 94 37 58  | 6    | 14.0   | 30    | 700    | <1.0   | 1.32 | 1.3      | <.01     | .4   |
| 145853          | 39 55 30 | 94 49 58  | 5    | 9.1    | 30    | 1,500  | <1.0   | 1.23 | 1.2      | .04      | .5   |
| 145567          | 39 53 13 | 94 55 1   | 7    | 15.0   | 30    | 1,000  | 1.5    | 1.61 | 1.3      | .27      | 1.5  |
| 146534          | 39 52 44 | 94 48 14  | 5    | 7.3    | 30    | 700    | <1.0   | 1.67 | 1.7      | <.01     | .4   |
| 145453          | 39 51 0  | 94 39 0   | 6    | 8.3    | 30    | 700    | 1.5    | 1.59 | 1.6      | .04      | .6   |
| Archison County |          |           |      |        |       |        |        |      |          |          |      |
| 146579          | 40 17 16 | 95 15 28  | 5    | 8.0    | 30    | 700    | 1.0    | 1.97 | 2.0      | <.01     | .6   |
| 146298          | 40 17 45 | 95 26 31  | 6    | 13.0   | 50    | 1,000  | 1.5    | 1.13 | 1.1      | <.01     | .5   |
| 145414          | 40 26 13 | 95 28 30  | 6    | 12.0   | 30    | 700    | 1.5    | 2.26 | 2.2      | .11      | .7   |
| 145475          | 40 31 30 | 95 28 30  | 6    | 12.0   | 50    | 700    | <1.0   | 1.84 | 1.8      | .05      | .5   |
| 145890          | 40 20 31 | 95 15 28  | 5    | 11.0   | 50    | 1,000  | 1.5    | 1.82 | 1.8      | .01      | .6   |
| 145981          | 40 34 1  | 95 36 14  | 5    | 9.3    | 50    | 500    | 1.0    | 1.52 | 1.5      | <.01     | .6   |
| 145789          | 40 34 30 | 95 22 30  | 6    | 14.0   | 30    | 700    | 1.0    | 2.00 | 2.0      | <.01     | .5   |
| 146260          | 40 27 0  | 95 12 0   | 6    | 12.0   | 50    | 700    | 1.5    | 1.83 | 1.8      | <.01     | .5   |
| 145877          | 40 26 13 | 95 35 13  | 4    | 8.8    | 30    | 700    | 1.0    | 1.73 | 1.6      | .18      | 1.2  |
| 146388          | 40 34 1  | 95 13 1   | 5    | 8.0    | 30    | 700    | 1.0    | 1.81 | 1.8      | .02      | .7   |
| Audrain County  |          |           |      |        |       |        |        |      |          |          |      |
| 146571          | 39 15 0  | 91 39 0   | 5    | 15.0   | 30    | 700    | <1.0   | 1.19 | 1.2      | .02      | .5   |
| 145640          | 39 9 0   | 91 40 58  | 4    | 15.0   | 30    | 700    | 1.5    | 1.26 | 1.2      | .03      | .4   |
| 146149          | 39 10 1  | 91 49 30  | 5    | 15.0   | 30    | 700    | 1.0    | 1.46 | 1.4      | .03      | .3   |
| 145554          | 39 6 0   | 92 4 30   | 5    | 15.0   | 30    | 500    | N      | 1.08 | 1.0      | .07      | .5   |
| 146185          | 39 9 0   | 91 28 1   | 3    | 12.0   | 30    | 700    | <1.0   | 1.06 | 1.0      | .05      | .3   |
| 146225          | 39 9 14  | 91 25 1   | 5    | 8.6    | 30    | 200    | N      | 1.06 | 1.0      | .03      | .2   |
| 146397          | 39 13 1  | 91 50 13  | 5    | 12.0   | 30    | 700    | <1.0   | 1.37 | 1.3      | .04      | .3   |
| 146381          | 39 18 0  | 92 1 1    | 4    | 8.6    | 30    | 700    | 1.0    | 1.30 | 1.3      | .04      | .5   |
| 145714          | 39 17 31 | 91 51 0   | 5    | 10.0   | 30    | 500    | <1.0   | 1.82 | 1.8      | <.01     | .3   |
| 146265          | 39 7 58  | 91 58 1   | 4    | 11.0   | 30    | 700    | 1.0    | 1.20 | 1.2      | .05      | .3   |



Table 3.--Locations and concentrations of frequently detected elements for agricultural soils of Missouri

| Sample          | Ce ppm | Co ppm | Cr ppm | Cu ppm | F%   | Fe % | Ga ppm | Hg ppm | I ppm | K % | La ppm |
|-----------------|--------|--------|--------|--------|------|------|--------|--------|-------|-----|--------|
| Adair County    |        |        |        |        |      |      |        |        |       |     |        |
| 146319          | 150    | 7      | 70     | 15     | .026 | 2.2  | 15     | .03    | --    | 1.6 | 50     |
| 146346          | 150    | 7      | 50     | 15     | .027 | 2.5  | 15     | .05    | --    | 1.1 | 30     |
| 146082          | <150   | 7      | 30     | 15     | .018 | 1.9  | 15     | .04    | --    | 1.2 | 30     |
| 146380          | 150    | 5      | 50     | 15     | .028 | 2.4  | 15     | .03    | --    | 1.5 | 50     |
| 145893          | <150   | 10     | 70     | 15     | .036 | 2.7  | 15     | .04    | --    | 1.7 | 50     |
| 145864          | 150    | 7      | 70     | 15     | .027 | 2.5  | 15     | .03    | --    | 1.1 | 50     |
| 146414          | <150   | 15     | 70     | 10     | .040 | 2.9  | 15     | .04    | --    | 1.3 | 30     |
| 145512          | <150   | 10     | 30     | 15     | .110 | 1.7  | 10     | .04    | --    | 1.3 | 30     |
| 146125          | <150   | 7      | 70     | 15     | .045 | 2.9  | 15     | .04    | 3.60  | 1.4 | 50     |
| 146156          | <150   | 15     | 50     | 15     | .028 | 2.0  | 7      | .03    | --    | 1.2 | 30     |
| Andrew County   |        |        |        |        |      |      |        |        |       |     |        |
| 145573          | 150    | 10     | 50     | 15     | .054 | 1.5  | 15     | .04    | --    | 2.1 | 50     |
| 145681          | <150   | 15     | 70     | 20     | .032 | 2.9  | 15     | .07    | --    | 1.8 | 50     |
| 145467          | <150   | 7      | 70     | 20     | .030 | 2.2  | 15     | .11    | 3.80  | 2.0 | 50     |
| 146159          | <150   | 15     | 70     | 15     | .058 | 2.7  | 15     | .05    | --    | 1.9 | 30     |
| 145787          | <150   | 15     | 70     | 15     | .035 | 2.7  | 15     | .04    | --    | 1.8 | 70     |
| 146095          | 150    | 10     | 70     | 20     | .037 | 2.8  | 20     | .04    | --    | 1.8 | 50     |
| 145853          | 150    | 10     | 70     | 15     | .023 | 2.2  | 15     | .03    | --    | 2.0 | 70     |
| 145567          | <150   | 10     | 70     | 30     | .140 | 3.3  | 20     | .06    | --    | 2.2 | 70     |
| 146534          | <150   | 10     | 30     | 10     | .025 | 1.7  | 15     | .02    | --    | 1.7 | 50     |
| 145453          | 150    | 15     | 100    | 30     | .040 | 2.9  | 20     | .06    | --    | 1.7 | 70     |
| Atchison County |        |        |        |        |      |      |        |        |       |     |        |
| 146579          | <150   | 7      | 30     | 20     | .044 | 2.2  | 15     | .02    | --    | 1.8 | 30     |
| 146298          | 150    | 15     | 70     | 15     | .038 | 2.7  | 20     | .06    | --    | 1.8 | 50     |
| 145414          | <150   | 10     | 70     | 15     | .140 | 2.6  | 15     | .06    | --    | 2.0 | 50     |
| 145475          | 150    | 10     | 70     | 15     | .030 | 2.5  | 15     | .04    | --    | 2.0 | 50     |
| 145890          | <150   | 10     | 50     | 15     | .030 | 2.5  | 15     | .03    | 4.88  | 2.0 | 30     |
| 145981          | <150   | 10     | 70     | 10     | .032 | 2.5  | 7      | .05    | --    | 2.1 | 50     |
| 145789          | <150   | 15     | 70     | 50     | .036 | 2.8  | 15     | .04    | --    | 1.8 | 50     |
| 146260          | 150    | 15     | 70     | 15     | .039 | 2.9  | 15     | .04    | --    | 1.9 | 70     |
| 145877          | <150   | 7      | 70     | 30     | .030 | 2.4  | 15     | .04    | --    | 1.7 | 30     |
| 146388          | <150   | 7      | 70     | 15     | .006 | 2.2  | 15     | .05    | --    | 2.1 | 50     |
| Audrain County  |        |        |        |        |      |      |        |        |       |     |        |
| 146571          | <150   | 10     | 70     | 15     | .029 | 2.6  | 15     | .08    | --    | 1.4 | 30     |
| 145640          | <150   | 10     | 70     | 15     | .025 | 2.7  | 15     | .15    | --    | 1.3 | 50     |
| 146149          | <150   | 15     | 70     | 15     | .039 | 3.7  | 15     | .11    | --    | 1.4 | 30     |
| 145554          | <150   | 10     | 50     | 15     | .140 | 2.5  | 15     | .17    | 4.56  | 1.4 | 30     |
| 146185          | 150    | 10     | 70     | 15     | .019 | 1.7  | 10     | .01    | --    | 1.0 | 50     |
| 146225          | 150    | 7      | 50     | 15     | .023 | 2.4  | 15     | .06    | --    | .8  | 30     |
| 146397          | <150   | 7      | 50     | 10     | .028 | 2.4  | 10     | .04    | --    | 1.3 | 30     |
| 146381          | <150   | 7      | 70     | 10     | .012 | 1.8  | 15     | .06    | --    | 1.5 | 50     |
| 145714          | <150   | 7      | 50     | 15     | .047 | 2.7  | 15     | .13    | --    | 1.1 | 30     |
| 146265          | 150    | 10     | 70     | 15     | .021 | 2.2  | 15     | .02    | --    | 1.5 | 50     |

Table 3.--Locations and concentrations of frequently detected elements for agricultural soils of Missouri

| Sample          | Li ppm | Mg % | Mn ppm | Na % | Nb ppm | Nd ppm | Ni ppm | P % | Pb ppm | Sc ppm | Se ppm |
|-----------------|--------|------|--------|------|--------|--------|--------|-----|--------|--------|--------|
| Adair County    |        |      |        |      |        |        |        |     |        |        |        |
| 146319          | 22     | .49  | 700    | .78  | 10     | 70     | 15     | .09 | 20     | 10     | .6     |
| 146346          | 29     | .28  | 500    | .49  | <10    | 70     | 15     | .04 | 15     | 10     | .5     |
| 146082          | 24     | .22  | 700    | .56  | <10    | 70     | 15     | .09 | 15     | 7      | .5     |
| 146380          | 22     | .27  | 700    | .78  | <10    | 70     | 7      | .04 | 15     | 7      | 1.2    |
| 145893          | 24     | .33  | 1,000  | .74  | 10     | 70     | 15     | .09 | 20     | 10     | .6     |
| 145864          | 24     | .29  | 200    | .45  | <10    | 70     | 15     | .07 | 20     | 7      | .1     |
| 146414          | 27     | .36  | 1,500  | .70  | <10    | <70    | 15     | .03 | 30     | 10     | 1.0    |
| 145512          | 19     | .40  | 700    | .59  | <10    | 70     | 20     | .08 | 15     | 7      | .4     |
| 146125          | 28     | .50  | 700    | .67  | <10    | 70     | 20     | .09 | 20     | 10     | .8     |
| 146156          | 24     | .26  | 500    | .50  | <10    | 70     | 15     | .04 | 15     | 7      | <.1    |
| Andrew County   |        |      |        |      |        |        |        |     |        |        |        |
| 145573          | 24     | .33  | 500    | .62  | <10    | 70     | 15     | .05 | 20     | 7      | .4     |
| 145681          | 30     | .60  | 700    | .73  | <10    | <70    | 50     | .07 | 20     | 10     | .4     |
| 145467          | 22     | .45  | 500    | .82  | <10    | 70     | 15     | .27 | 30     | 7      | .4     |
| 146159          | 27     | .57  | 700    | .79  | <10    | 70     | 50     | .09 | 20     | 10     | .1     |
| 145787          | 25     | .48  | 1,000  | .75  | 10     | 70     | 20     | .06 | 20     | 10     | .3     |
| 146095          | 28     | .59  | 500    | .76  | <10    | 70     | 30     | .04 | 20     | 10     | <.1    |
| 145853          | 22     | .39  | 1,000  | .89  | <10    | 70     | 20     | .05 | 15     | 10     | .3     |
| 145567          | 40     | 1.05 | 700    | .66  | <10    | 70     | 30     | .10 | 15     | 15     | .6     |
| 146534          | 23     | .27  | 1,000  | .70  | <10    | 70     | 15     | .04 | 15     | 10     | .6     |
| 145453          | 25     | .54  | 700    | .65  | <10    | 70     | 30     | .08 | 20     | 15     | .4     |
| Atchison County |        |      |        |      |        |        |        |     |        |        |        |
| 146579          | 26     | .43  | 500    | .78  | <10    | 70     | 20     | .09 | 15     | 7      | .3     |
| 146298          | 27     | .60  | 1,000  | .85  | 10     | 70     | 30     | .09 | 20     | 15     | .3     |
| 145414          | 23     | .51  | 700    | .82  | <10    | 70     | 20     | .09 | 15     | 10     | .6     |
| 145475          | 25     | .45  | 700    | .82  | <10    | 70     | 30     | .09 | 15     | 10     | .6     |
| 145890          | 22     | .45  | 700    | .81  | <10    | <70    | 30     | .10 | 20     | 7      | .2     |
| 145981          | 24     | .49  | 1,500  | .93  | 15     | <70    | 15     | .09 | 15     | 7      | <.1    |
| 145789          | 27     | .55  | 700    | .70  | <10    | 70     | 30     | .06 | 15     | 15     | .6     |
| 146260          | 30     | .54  | 1,000  | .84  | <10    | 70     | 30     | .04 | 20     | 15     | .3     |
| 145877          | 22     | .49  | 500    | .88  | <10    | <70    | 30     | .12 | 20     | 7      | .3     |
| 146388          | 22     | .45  | 1,000  | .84  | <10    | 70     | 15     | .09 | 15     | 7      | .7     |
| Audrain County  |        |      |        |      |        |        |        |     |        |        |        |
| 146571          | 23     | .33  | 700    | .66  | <10    | 70     | 15     | .04 | 20     | 7      | .6     |
| 145640          | 23     | .34  | 700    | .68  | <10    | <70    | 15     | .04 | 20     | 7      | 1.0    |
| 146149          | 26     | .39  | 1,000  | .64  | <10    | 70     | 15     | .04 | 20     | 10     | .8     |
| 145554          | 22     | .31  | 700    | .70  | 10     | <70    | 15     | .04 | 20     | 7      | 1.0    |
| 146185          | 22     | .24  | 700    | .70  | 10     | 70     | 15     | .04 | 15     | 7      | .5     |
| 146225          | 27     | .24  | 200    | .38  | <10    | <70    | 15     | .04 | 15     | 7      | .6     |
| 146397          | 23     | .27  | 1,000  | .08  | <10    | <70    | 7      | .04 | 15     | 7      | .8     |
| 146381          | 22     | .27  | 300    | .70  | <10    | 70     | 7      | .04 | 15     | 7      | .9     |
| 145714          | 28     | .36  | 300    | .42  | <10    | 70     | 15     | .10 | 30     | 10     | .5     |
| 146265          | 23     | .20  | 1,500  | .78  | 10     | 70     | 10     | .04 | 20     | 10     | .5     |

Table 3.--Locations and concentrations of frequently detected elements for agricultural soils of Missouri

| Sample          | Si % | Sr ppm | Th ppm | Ti % | U ppm | V ppm | Y ppm | Yb ppm | Zn ppm | Zr ppm |
|-----------------|------|--------|--------|------|-------|-------|-------|--------|--------|--------|
| Adair County    |      |        |        |      |       |       |       |        |        |        |
| 146319          | 35   | 200    | --     | .30  | --    | 70    | 30    | 5.0    | 45     | 200    |
| 146346          | 34   | 150    | --     | .30  | --    | 70    | 30    | 3.0    | 58     | 500    |
| 146082          | 35   | 150    | --     | .30  | --    | 70    | 20    | 3.0    | 42     | 300    |
| 146380          | 35   | 150    | --     | .30  | --    | 70    | 30    | 3.0    | 56     | 200    |
| 145893          | 31   | 150    | --     | .30  | --    | 100   | 30    | 3.0    | 64     | 300    |
| 145864          | 35   | 150    | 8.50   | .30  | 3.41  | 70    | 30    | 3.0    | 43     | 200    |
| 146414          | 33   | 150    | --     | .30  | --    | 100   | 30    | 3.0    | 54     | 200    |
| 145512          | 35   | 150    | 8.91   | .30  | 3.22  | 70    | 30    | 3.0    | 66     | 300    |
| 146125          | 31   | 150    | --     | .30  | --    | 150   | 30    | 3.0    | 66     | 200    |
| 146156          | 31   | 100    | --     | .30  | --    | 70    | 30    | 3.0    | 37     | 300    |
| Andrew County   |      |        |        |      |       |       |       |        |        |        |
| 145573          | 36   | 150    | --     | .30  | --    | 70    | 30    | 3.0    | 46     | 300    |
| 145681          | 32   | 150    | 10.74  | .30  | 3.95  | 100   | 30    | 3.0    | 75     | 300    |
| 145467          | 32   | 200    | --     | .30  | --    | 100   | 30    | 3.0    | 112    | 300    |
| 146159          | 31   | 150    | --     | .30  | --    | 100   | 30    | 3.0    | 73     | 300    |
| 145787          | 33   | 150    | --     | .30  | --    | 100   | 30    | 3.0    | 72     | 300    |
| 146095          | 33   | 150    | --     | .30  | --    | 100   | 30    | 3.0    | 77     | 200    |
| 145853          | 34   | 200    | --     | .50  | --    | 100   | 30    | 3.0    | 63     | 300    |
| 145567          | 28   | 300    | --     | .30  | --    | 150   | 30    | 3.0    | 103    | 150    |
| 146534          | 36   | 150    | --     | .30  | --    | 70    | 30    | 3.0    | 48     | 300    |
| 145453          | 32   | 200    | 9.52   | .50  | 3.97  | 150   | 50    | 5.0    | 70     | 300    |
| Atchison County |      |        |        |      |       |       |       |        |        |        |
| 146579          | 32   | 150    | 11.16  | .20  | 3.46  | 70    | 30    | 3.0    | 63     | 200    |
| 146298          | 32   | 300    | --     | .30  | --    | 150   | 50    | 3.0    | 68     | 500    |
| 145414          | 32   | 150    | 8.14   | .30  | 3.86  | 100   | 30    | 3.0    | 73     | 500    |
| 145475          | 33   | 150    | --     | .30  | --    | 100   | 50    | 3.0    | 71     | 300    |
| 145890          | 33   | 200    | --     | .30  | --    | 70    | 30    | 3.0    | 67     | 500    |
| 145981          | 31   | 70     | --     | .30  | --    | 50    | 30    | 3.0    | 71     | 300    |
| 145789          | 34   | 150    | --     | .30  | --    | 100   | 30    | 3.0    | 72     | 300    |
| 146260          | 31   | 150    | --     | .30  | --    | 150   | 50    | 3.0    | 72     | 300    |
| 145877          | 34   | 200    | --     | .30  | --    | 70    | 30    | 3.0    | 64     | 500    |
| 146388          | 32   | 200    | --     | .20  | --    | 70    | 30    | 3.0    | 66     | 150    |
| Audrain County  |      |        |        |      |       |       |       |        |        |        |
| 146571          | 35   | 150    | --     | .30  | --    | 70    | 30    | 3.0    | 59     | 300    |
| 145640          | 34   | 150    | 9.98   | .30  | 4.20  | 100   | 30    | 3.0    | 49     | 300    |
| 146149          | 33   | 150    | --     | .30  | 5.37  | 100   | 30    | 3.0    | 60     | 300    |
| 145554          | 34   | 100    | --     | .30  | --    | 70    | 30    | 3.0    | 42     | 300    |
| 146185          | 37   | 150    | --     | .30  | --    | 70    | 30    | 3.0    | 36     | 300    |
| 146225          | 35   | 70     | --     | .30  | --    | 70    | 20    | 3.0    | 35     | 200    |
| 146397          | 35   | 150    | --     | .30  | --    | 70    | 30    | 3.0    | 62     | 200    |
| 146381          | 35   | 150    | --     | .30  | --    | 70    | 30    | 3.0    | 45     | 200    |
| 145714          | 32   | 70     | --     | .30  | --    | 70    | 30    | 3.0    | 85     | 300    |
| 146265          | 34   | 150    | --     | .50  | --    | 100   | 50    | 5.0    | 41     | 500    |

Table 3.--Locations and concentrations of frequently detected elements for agricultural soils of Missouri--continued

| Sample        | Latitude | Longitude | Al % | As ppm | B ppm | Ba ppm | Be ppm | C %  | C org. % | C crb. % | Ca % |
|---------------|----------|-----------|------|--------|-------|--------|--------|------|----------|----------|------|
| Barry County  |          |           |      |        |       |        |        |      |          |          |      |
| 146119        | 36 52 30 | 93 37 58  | 3    | 7.6    | 50    | 300    | 1.0    | 1.39 | 1.4      | .02      | .1   |
| 145647        | 36 49 1  | 93 38 31  | 2    | 7.5    | 30    | 300    | <1.0   | 1.29 | 1.3      | <.01     | <.1  |
| 145494        | 36 51 28 | 93 40 58  | 3    | 6.3    | 50    | 500    | 1.0    | 1.03 | 1.0      | .04      | .1   |
| 145973        | 36 51 28 | 93 55 58  | 3    | 7.0    | 50    | 500    | <1.0   | 1.50 | 1.5      | .03      | .4   |
| 145678        | 36 43 58 | 94 4 1    | 3    | 7.2    | 30    | 700    | <1.0   | 1.10 | 1.1      | .04      | .2   |
| 146303        | 36 38 31 | 94 3 0    | 3    | 3.3    | 70    | 500    | N      | 2.27 | 2.3      | .01      | .2   |
| 146144        | 36 40 1  | 93 58 58  | 3    | 3.8    | 30    | 500    | <1.0   | 4.58 | 4.5      | .05      | .4   |
| 146068        | 36 40 58 | 93 51 0   | 3    | 8.2    | 30    | 700    | 1.0    | 1.38 | 1.4      | .02      | .1   |
| 145496        | 36 38 31 | 93 49 30  | 3    | 6.1    | 30    | 500    | 1.0    | 1.25 | 1.2      | .08      | .3   |
| 145817        | 36 31 1  | 93 42 0   | 3    | 9.9    | 50    | 500    | N      | .84  | .8       | <.01     | .1   |
| Barton County |          |           |      |        |       |        |        |      |          |          |      |
| 145933        | 37 29 45 | 94 27 0   | 3    | 5.0    | 50    | 500    | N      | 1.33 | 1.3      | .03      | .2   |
| 145749        | 37 27 14 | 94 17 31  | 2    | 5.0    | 30    | 150    | N      | .84  | .8       | .01      | .1   |
| 146032        | 37 26 13 | 94 30 0   | 2    | 5.8    | 30    | 200    | N      | .73  | .7       | .03      | .1   |
| 145797        | 37 37 58 | 94 32 31  | 4    | 12.0   | 50    | 700    | 1.5    | 1.09 | 1.1      | .01      | .2   |
| 145833        | 37 33 0  | 94 27 28  | 4    | 16.0   | 30    | 500    | 1.0    | 1.03 | 1.0      | .02      | .1   |
| 146092        | 37 31 30 | 94 9 28   | 2    | 7.5    | 30    | 300    | N      | .95  | 1.0      | <.01     | .1   |
| 146460        | 37 33 28 | 94 12 0   | 3    | 9.5    | 20    | 300    | N      | 2.22 | 2.2      | .02      | .3   |
| 145945        | 37 25 15 | 94 16 58  | 3    | 7.0    | 30    | 200    | 1.0    | .97  | 1.0      | <.01     | .1   |
| 146219        | 37 26 31 | 94 22 1   | 3    | 6.5    | 30    | 300    | N      | 1.10 | 1.0      | .05      | .1   |
| 145474        | 37 27 28 | 94 25 44  | 3    | 4.8    | 50    | 200    | N      | .85  | .8       | .07      | .1   |
| Bates County  |          |           |      |        |       |        |        |      |          |          |      |
| 145974        | 38 24 43 | 94 25 58  | 4    | 8.1    | 30    | 500    | <1.0   | 1.20 | 1.2      | <.01     | .3   |
| 145703        | 38 16 1  | 94 18 14  | 2    | 2.5    | 30    | 150    | N      | .49  | .5       | <.01     | <.1  |
| 146291        | 38 3 28  | 94 21 14  | 4    | 8.3    | 20    | 500    | N      | 1.72 | 1.7      | <.01     | .2   |
| 146572        | 38 15 0  | 94 34 15  | 5    | 7.2    | 30    | 700    | <1.0   | 1.85 | 1.8      | .02      | .4   |
| 146274        | 38 21 14 | 94 21 28  | 5    | 9.9    | 30    | 700    | 1.0    | 2.46 | 2.4      | .04      | .4   |
| 146427        | 38 15 28 | 94 15 0   | 3    | 11.0   | 30    | 300    | 1.0    | 1.32 | 1.3      | .03      | .4   |
| 145636        | 38 12 28 | 94 22 1   | 3    | 8.0    | 50    | 300    | <1.0   | .73  | .7       | .01      | .3   |
| 145695        | 38 12 0  | 94 7 1    | 4    | 8.5    | 30    | 500    | 1.0    | 3.08 | 3.0      | .07      | .5   |
| 145613        | 38 21 0  | 94 7 58   | 4    | 12.0   | 30    | 500    | 1.5    | 1.75 | 1.7      | .05      | .4   |
| 145447        | 38 10 1  | 94 22 1   | 7    | 9.8    | 20    | 700    | 1.5    | 1.85 | 1.7      | .12      | .9   |
| Benton County |          |           |      |        |       |        |        |      |          |          |      |
| 145782        | 38 28 58 | 93 22 1   | 4    | 13.0   | 30    | 700    | 1.0    | 1.13 | 1.1      | <.01     | .5   |
| 146102        | 38 28 30 | 93 10 58  | 4    | 10.0   | 30    | 500    | 1.0    | 2.41 | 2.4      | <.01     | .2   |
| 145591        | 38 28 1  | 93 4 58   | 5    | 11.0   | 30    | 700    | 1.5    | .93  | .8       | .08      | .3   |
| 145780        | 38 25 1  | 93 10 58  | 3    | 7.3    | 30    | 700    | 1.0    | .90  | .9       | <.01     | .2   |
| 145456        | 38 22 58 | 93 18 57  | 6    | 7.0    | 30    | 700    | 1.0    | .60  | .6       | .05      | .4   |
| 146203        | 38 24 0  | 93 25 58  | 5    | 17.0   | 30    | 700    | 1.5    | 1.29 | 1.3      | <.01     | .4   |
| 145771        | 38 20 31 | 93 15 0   | 4    | 5.2    | 30    | 700    | <1.0   | 1.54 | 1.5      | .02      | .4   |
| 145769        | 38 12 0  | 93 21 0   | 4    | 10.0   | 30    | 700    | <1.0   | 1.05 | 1.0      | .03      | .4   |
| 146454        | 38 4 1   | 93 15 0   | 4    | 7.3    | 20    | 700    | <1.0   | 1.26 | 1.2      | .03      | .2   |
| 146210        | 38 7 1   | 93 4 58   | 4    | 12.0   | 30    | 700    | 1.0    | 1.58 | 1.6      | <.01     | .2   |

Table 3.--Locations and concentrations of frequently detected elements for agricultural soils of Missouri--continued

| Sample        | Ce ppm | Co ppm | Cr ppm | Cu ppm | F%   | Fe % | Ga ppm | Hg ppm | I ppm | K % | La ppm |
|---------------|--------|--------|--------|--------|------|------|--------|--------|-------|-----|--------|
| Barry County  |        |        |        |        |      |      |        |        |       |     |        |
| 146119        | <150   | 7      | 50     | 10     | .014 | 1.7  | 10     | .02    | --    | 1.1 | 50     |
| 145647        | <150   | 7      | 30     | 7      | .016 | 1.3  | <5     | .08    | --    | .6  | 30     |
| 145494        | <150   | 15     | 50     | 10     | .340 | 1.6  | 10     | .04    | --    | 1.2 | 70     |
| 145973        | 150    | 7      | 70     | 15     | .012 | 1.7  | 7      | .05    | --    | 1.2 | 50     |
| 145678        | 150    | 15     | 70     | 15     | .018 | 2.1  | 7      | .06    | --    | 1.1 | 50     |
| 146303        | <150   | 3      | 30     | 10     | .010 | .9   | 7      | .08    | --    | 1.0 | 30     |
| 146144        | <150   | 7      | 30     | 15     | .013 | 1.0  | 7      | .38    | --    | 1.0 | 70     |
| 146068        | 150    | 15     | 50     | 10     | .012 | 1.7  | 7      | .03    | --    | 1.2 | 70     |
| 145496        | 150    | 15     | 50     | 7      | .170 | 1.5  | 7      | .04    | 5.24  | 1.2 | 50     |
| 145817        | 150    | 15     | 50     | 15     | .018 | 1.8  | 10     | .03    | --    | 2.0 | 30     |
| Barton County |        |        |        |        |      |      |        |        |       |     |        |
| 145933        | <150   | 3      | 70     | 15     | .011 | 1.3  | 10     | .02    | --    | .7  | 30     |
| 145749        | <150   | 5      | 30     | 7      | .010 | 1.5  | <5     | <.01   | --    | .5  | 30     |
| 146032        | <150   | 3      | 30     | 7      | .012 | 1.5  | 7      | .02    | 2.99  | .6  | 30     |
| 145797        | <150   | 15     | 50     | 10     | .020 | 3.6  | 15     | .04    | --    | 1.0 | 70     |
| 145833        | <150   | 15     | 70     | 15     | .021 | 4.4  | 15     | .04    | --    | .9  | 30     |
| 146092        | <150   | 7      | 50     | 7      | .013 | 1.6  | 7      | .02    | --    | .6  | 30     |
| 146460        | 150    | 5      | 30     | 15     | .010 | 1.8  | 10     | .06    | --    | .8  | 30     |
| 145945        | <150   | 5      | 50     | 7      | .014 | 1.5  | 7      | .03    | --    | .5  | 30     |
| 146219        | <150   | 7      | 50     | 7      | .014 | 1.7  | 7      | .02    | --    | .6  | 30     |
| 145474        | <150   | 3      | 30     | 7      | .010 | 1.2  | 7      | .03    | --    | .6  | 30     |
| Bates County  |        |        |        |        |      |      |        |        |       |     |        |
| 145974        | <150   | 7      | 70     | 10     | .022 | 2.2  | 15     | .03    | --    | 1.2 | 50     |
| 145703        | N      | 3      | 15     | 5      | .011 | .6   | <5     | .03    | --    | .8  | 30     |
| 146291        | <150   | 7      | 50     | 15     | .017 | 2.3  | 10     | .02    | --    | 1.1 | 30     |
| 146572        | <150   | 7      | 70     | 15     | .034 | 2.8  | 15     | .04    | --    | 1.3 | 30     |
| 146274        | 150    | 10     | 50     | 50     | .020 | 2.4  | 15     | .14    | --    | 1.6 | 50     |
| 146427        | <150   | 15     | 70     | 20     | .012 | 2.7  | 10     | .03    | --    | .8  | 30     |
| 145636        | <150   | 10     | 30     | 7      | .014 | 1.4  | 5      | .10    | --    | 1.1 | 50     |
| 145695        | 150    | 15     | 70     | 10     | .043 | 2.2  | 10     | .16    | --    | 1.2 | 70     |
| 145613        | 150    | 15     | 70     | 20     | .030 | 3.4  | 15     | .03    | 7.02  | 1.2 | 70     |
| 145447        | 150    | 15     | 70     | 30     | .034 | 3.8  | 20     | .05    | --    | 2.1 | 70     |
| Benton County |        |        |        |        |      |      |        |        |       |     |        |
| 145782        | 150    | 15     | 70     | 15     | .022 | 2.4  | 15     | .04    | --    | 1.4 | 30     |
| 146102        | <150   | 15     | 70     | 15     | .016 | 2.1  | 15     | .06    | --    | 1.0 | 30     |
| 145591        | <150   | 10     | 70     | 10     | .110 | 2.7  | 15     | .03    | --    | 1.3 | 50     |
| 145780        | 150    | 15     | 50     | 10     | .020 | 1.7  | 15     | .04    | --    | 1.4 | 30     |
| 145456        | 150    | 7      | 70     | 15     | .043 | 2.9  | 15     | .05    | --    | 1.1 | 70     |
| 146203        | 150    | 15     | 70     | 15     | .029 | 3.2  | 15     | .03    | 6.94  | 1.2 | 70     |
| 145771        | 150    | 7      | 50     | 15     | .012 | 1.8  | 10     | .04    | --    | 1.7 | 70     |
| 145769        | <150   | 15     | 70     | 15     | .024 | 2.9  | 15     | .04    | --    | 1.2 | 50     |
| 146454        | <150   | 15     | 70     | 10     | .021 | 1.8  | 15     | .04    | --    | 1.4 | 50     |
| 146210        | 150    | 15     | 70     | 70     | .019 | 2.2  | 15     | .05    | --    | .9  | 50     |



Table 3.--Locations and concentrations of frequently detected elements for agricultural soils of Missouri--continued

| Sample        | Li ppm | Mg % | Mn ppm | Na % | Nb ppm | Nd ppm | Ni ppm | P % | Pb ppm | Sc ppm | Se ppm |
|---------------|--------|------|--------|------|--------|--------|--------|-----|--------|--------|--------|
| Barry County  |        |      |        |      |        |        |        |     |        |        |        |
| 146119        | 26     | .21  | 1,000  | .18  | 10     | 70     | 7      | .04 | 20     | 7      | <.1    |
| 145647        | 12     | .07  | 1,000  | .13  | <10    | <70    | 15     | .07 | 15     | <5     | .6     |
| 145494        | 20     | .16  | 1,500  | .27  | 10     | 70     | 7      | .05 | 30     | 7      | .3     |
| 145973        | 20     | .13  | 700    | .25  | 10     | 70     | 7      | .09 | 20     | 7      | <.1    |
| 145678        | 23     | .16  | 1,500  | .25  | 10     | 70     | 10     | .07 | 30     | 7      | .4     |
| 146303        | 19     | .13  | 300    | .23  | 15     | 70     | 7      | .09 | 15     | 7      | <.1    |
| 146144        | 18     | .14  | 1,500  | .26  | <10    | 70     | 7      | .04 | 30     | 5      | <.1    |
| 146068        | 23     | .14  | 1,000  | .27  | 15     | 70     | 7      | .04 | 30     | 7      | <.1    |
| 145496        | 20     | .14  | 1,000  | .25  | 10     | 70     | 10     | .03 | 20     | 7      | .3     |
| 145817        | 21     | .17  | 1,000  | .23  | 10     | <70    | 15     | .03 | 70     | 7      | .1     |
| Barton County |        |      |        |      |        |        |        |     |        |        |        |
| 145933        | 18     | .13  | 200    | .38  | 15     | <70    | 5      | .04 | 15     | 7      | <.1    |
| 145749        | 15     | .11  | 300    | .22  | <10    | <70    | 5      | .04 | 15     | 5      | <.1    |
| 146032        | 16     | .12  | 150    | .27  | <10    | <70    | <5     | .04 | 15     | 7      | <.1    |
| 145797        | 25     | .25  | 1,000  | .40  | 15     | 70     | 15     | .06 | 20     | 10     | 1.5    |
| 145833        | 25     | .23  | 1,500  | .39  | <10    | <70    | 15     | .05 | 30     | 7      | .8     |
| 146092        | 17     | .12  | 300    | .26  | <10    | <70    | 7      | .09 | 20     | 7      | .1     |
| 146460        | 18     | .17  | 300    | .36  | <10    | 70     | 7      | .17 | 20     | 7      | .7     |
| 145945        | 20     | .14  | 150    | .16  | 10     | <70    | 5      | .04 | 15     | 7      | <.1    |
| 146219        | 17     | .13  | 500    | .24  | <10    | <70    | 7      | .04 | 15     | 7      | .2     |
| 145474        | 16     | .12  | 150    | .30  | 10     | <70    | <5     | .04 | 15     | 7      | .4     |
| Bates County  |        |      |        |      |        |        |        |     |        |        |        |
| 145974        | 23     | .26  | 700    | .66  | 10     | 70     | 10     | .04 | 20     | 7      | <.1    |
| 145703        | 10     | .08  | 150    | .30  | <10    | <70    | <5     | .06 | 15     | <5     | .4     |
| 146291        | 26     | .20  | 700    | .55  | <10    | 70     | 15     | .09 | 15     | 7      | .6     |
| 146572        | 27     | .37  | 700    | .48  | <10    | 70     | 15     | .04 | 15     | 7      | .6     |
| 146274        | 28     | .32  | 700    | .79  | <10    | 70     | 15     | .09 | 50     | 10     | .5     |
| 146427        | 26     | .27  | 700    | .30  | 10     | <70    | 15     | .04 | 20     | 7      | .6     |
| 145636        | 16     | .13  | 1,500  | .56  | <10    | 70     | 5      | .03 | 30     | 5      | .7     |
| 145695        | 40     | .24  | 500    | .46  | <10    | 70     | 15     | .22 | 15     | 10     | .5     |
| 145613        | 31     | .27  | 1,500  | .37  | <10    | 70     | 30     | .10 | 30     | 15     | .7     |
| 145447        | 47     | .63  | 500    | .44  | <10    | 70     | 30     | .10 | 30     | 15     | .6     |
| Benton County |        |      |        |      |        |        |        |     |        |        |        |
| 145782        | 19     | .26  | 700    | .81  | <10    | <70    | 10     | .04 | 20     | 7      | .4     |
| 146102        | 23     | .25  | 700    | .35  | <10    | <70    | 15     | .09 | 30     | 7      | .1     |
| 145591        | 22     | .28  | 700    | .56  | 10     | 70     | 15     | .06 | 20     | 7      | .8     |
| 145780        | 23     | .26  | 700    | .41  | 10     | 70     | 15     | .04 | 20     | 7      | <.1    |
| 145456        | 31     | .46  | 300    | .42  | <10    | 70     | 20     | .03 | 15     | 10     | .4     |
| 146203        | 25     | .32  | 1,000  | .55  | <10    | 70     | 15     | .04 | 30     | 7      | .6     |
| 145771        | 24     | .28  | 700    | .53  | <10    | 70     | 15     | .07 | 15     | 7      | .2     |
| 145769        | 29     | .30  | 700    | .34  | <10    | 70     | 15     | .02 | 20     | 7      | .3     |
| 146454        | 23     | .24  | 1,000  | .38  | <10    | 70     | 15     | .04 | 20     | 7      | .3     |
| 146210        | 21     | .21  | 1,500  | .52  | 10     | 70     | 10     | .09 | 30     | 7      | .4     |

Table 3.--Locations and concentrations of frequently detected elements for agricultural soils of Missouri--continued

| Sample        | Si % | Sr ppm | Th ppm | Ti % | U ppm | V ppm | Y ppm | Yb ppm | Zn ppm | Zr ppm |
|---------------|------|--------|--------|------|-------|-------|-------|--------|--------|--------|
| Barry County  |      |        |        |      |       |       |       |        |        |        |
| 146119        | 37   | 70     | --     | .30  | --    | 70    | 30    | 3.0    | 97     | 200    |
| 145647        | 38   | 30     | --     | .30  | --    | 30    | 50    | 3.0    | 37     | 300    |
| 145494        | 37   | 70     | --     | .50  | --    | 50    | 50    | 5.0    | 31     | 500    |
| 145973        | 36   | 70     | --     | .50  | --    | 50    | 50    | 5.0    | 45     | 700    |
| 145678        | 37   | 70     | --     | .30  | --    | 70    | 50    | 5.0    | 31     | 700    |
| 146303        | 38   | 70     | --     | .50  | --    | 50    | 30    | 3.0    | 28     | 700    |
| 146144        | 36   | 100    | --     | .30  | --    | 30    | 70    | 7.0    | 50     | 300    |
| 146068        | 37   | 70     | --     | .50  | --    | 50    | 50    | 5.0    | 33     | 500    |
| 145496        | 37   | 70     | 9.10   | .50  | 4.07  | 50    | 50    | 5.0    | 29     | 500    |
| 145817        | 39   | 70     | 8.10   | .50  | 4.30  | 70    | 30    | 3.0    | 51     | 300    |
| Barton County |      |        |        |      |       |       |       |        |        |        |
| 145933        | 36   | 70     | --     | .50  | --    | 70    | 50    | 5.0    | 38     | 700    |
| 145749        | 41   | 30     | --     | .30  | --    | 30    | 30    | 3.0    | 20     | 500    |
| 146032        | 37   | 50     | --     | .30  | --    | 50    | 50    | 5.0    | 25     | 700    |
| 145797        | 36   | 100    | --     | .50  | --    | 100   | 50    | 5.0    | 41     | 500    |
| 145833        | 35   | 70     | --     | .50  | --    | 70    | 30    | --     | 41     | 700    |
| 146092        | 38   | 70     | --     | .30  | --    | 50    | 20    | 3.0    | 46     | 500    |
| 146460        | 37   | 70     | 11.04  | .30  | 3.78  | 70    | 30    | 3.0    | 93     | 500    |
| 145945        | 37   | 30     | --     | .50  | --    | 70    | 30    | 3.0    | 25     | 700    |
| 146219        | 39   | 70     | 9.36   | .30  | 3.67  | 50    | 30    | 3.0    | 30     | 300    |
| 145474        | 39   | 50     | --     | .30  | --    | 30    | 30    | 3.0    | 23     | 700    |
| Bates County  |      |        |        |      |       |       |       |        |        |        |
| 145974        | 34   | 100    | --     | .30  | --    | 70    | 50    | 5.0    | 43     | 700    |
| 145703        | 42   | 30     | --     | .20  | --    | 15    | 15    | 1.5    | 18     | 150    |
| 146291        | 36   | 100    | --     | .30  | --    | 70    | 30    | 3.0    | 46     | 200    |
| 146572        | 33   | 100    | --     | .30  | --    | 70    | 30    | 3.0    | 53     | 300    |
| 146274        | 33   | 150    | --     | .30  | --    | 70    | 50    | 3.0    | 100    | 300    |
| 146427        | 35   | 100    | --     | .30  | --    | 70    | 30    | 3.0    | 54     | 500    |
| 145636        | 38   | 70     | --     | .30  | --    | 50    | 30    | 3.0    | 43     | 300    |
| 145695        | 33   | 100    | 6.86   | .30  | 4.58  | 70    | 50    | 3.0    | 60     | 500    |
| 145613        | 33   | 100    | --     | .30  | --    | 100   | 50    | 3.0    | 55     | 300    |
| 145447        | 28   | 200    | 9.66   | .50  | 4.88  | 150   | 50    | 3.0    | 127    | 150    |
| Benton County |      |        |        |      |       |       |       |        |        |        |
| 145782        | 36   | 150    | 8.71   | .30  | 4.24  | 70    | 30    | 3.0    | 20     | 500    |
| 146102        | 36   | 70     | --     | .30  | --    | 70    | 50    | 5.0    | 38     | 300    |
| 145591        | 35   | 150    | 9.49   | .50  | 4.46  | 70    | 30    | 3.0    | 37     | 300    |
| 145780        | 37   | 100    | --     | .50  | --    | 70    | 50    | 5.0    | 38     | 500    |
| 145456        | 33   | 100    | --     | .50  | --    | 100   | 50    | 3.0    | 52     | 300    |
| 146203        | 34   | 150    | --     | .30  | --    | 100   | 30    | 3.0    | 45     | 300    |
| 145771        | 37   | 150    | --     | .30  | --    | 70    | 30    | 3.0    | 64     | 300    |
| 145769        | 36   | 70     | --     | .30  | --    | 70    | 50    | 3.0    | 46     | 300    |
| 146454        | 37   | 100    | --     | .50  | --    | 70    | 30    | 3.0    | 36     | 500    |
| 146210        | 35   | 100    | --     | .30  | --    | 70    | 30    | 3.0    | 103    | 500    |

Table 3.--Locations and concentrations of frequently detected elements for agricultural soils of Missouri--continued

| Sample           | Latitude | Longitude | Al % | As ppm | B ppm | Ba ppm | Be ppm | C %  | C org. % | C crb. % | Ca % |
|------------------|----------|-----------|------|--------|-------|--------|--------|------|----------|----------|------|
| Bollinger County |          |           |      |        |       |        |        |      |          |          |      |
| 146531           | 37 23 31 | 89 55 1   | 5    | 10.0   | 30    | 500    | <1.0   | .60  | .6       | .02      | .1   |
| 145541           | 37 4 30  | 89 58 1   | 4    | 6.8    | 30    | 300    | N      | .61  | .6       | .06      | .3   |
| 146065           | 37 30 0  | 89 52 58  | 4    | 7.3    | 50    | 700    | 1.0    | .62  | .6       | .01      | .2   |
| 145551           | 37 13 30 | 89 55 58  | 4    | 12.0   | 50    | 700    | <1.0   | .91  | .8       | .10      | .3   |
| 146329           | 37 33 0  | 90 4 1    | 5    | 11.0   | 30    | 700    | 1.5    | 1.31 | 1.3      | .04      | .3   |
| 145713           | 37 19 44 | 89 55 1   | 4    | 6.8    | 30    | 700    | <1.0   | .80  | .8       | .04      | .1   |
| 146061           | 37 16 1  | 90 12 28  | 4    | 4.3    | 30    | 500    | 1.0    | .96  | .9       | .02      | .3   |
| 145690           | 37 16 58 | 90 4 58   | 3    | 6.2    | 30    | 700    | <1.0   | 1.84 | 1.8      | .04      | .1   |
| 145443           | 37 24 28 | 90 3 28   | 3    | 6.8    | 30    | 500    | N      | 1.15 | 1.1      | .06      | .1   |
| 145934           | 37 14 13 | 90 3 0    | 3    | 8.8    | 30    | 500    | <1.0   | .62  | .6       | <.01     | .1   |
| Boone County     |          |           |      |        |       |        |        |      |          |          |      |
| 145775           | 38 50 31 | 92 12 43  | 5    | 12.0   | 30    | 700    | 1.0    | 1.55 | 1.5      | <.01     | .3   |
| 145504           | 38 47 45 | 92 21 43  | 5    | 8.4    | 30    | 700    | 1.0    | 1.02 | 1.0      | .04      | .4   |
| 146315           | 38 45 28 | 92 23 31  | 6    | 9.2    | 30    | 1,000  | 1.5    | 1.27 | 1.2      | .03      | .8   |
| 145918           | 38 54 28 | 92 22 30  | 4    | 9.2    | 30    | 700    | <1.0   | .96  | 1.0      | <.01     | .4   |
| 145649           | 39 3 43  | 92 11 45  | 4    | 11.0   | 70    | 700    | <1.0   | 1.03 | .9       | .11      | .5   |
| 145593           | 39 10 1  | 92 7 30   | 5    | 17.0   | 30    | 700    | 1.5    | 1.36 | 1.3      | .07      | .4   |
| 146356           | 39 12 28 | 92 12 28  | 4    | 12.0   | 30    | 700    | 1.5    | 1.15 | 1.1      | .06      | .5   |
| 146308           | 39 12 14 | 92 23 13  | 4    | 8.9    | 30    | 500    | <1.0   | .91  | .9       | .04      | .2   |
| 145616           | 39 7 30  | 92 21 43  | 4    | 7.0    | 30    | 300    | <1.0   | .90  | .9       | <.01     | .2   |
| 146305           | 39 0 28  | 92 25 1   | 5    | 13.0   | 50    | 700    | 1.5    | 1.20 | 1.2      | .03      | .4   |
| Buchanan County  |          |           |      |        |       |        |        |      |          |          |      |
| 145885           | 39 34 58 | 95 3 0    | 5    | 8.1    | 30    | 1,000  | N      | 1.00 | 1.1      | <.01     | .6   |
| 145420           | 39 40 30 | 94 55 30  | 6    | 9.6    | 30    | 700    | 1.0    | 1.62 | 1.3      | .30      | 1.4  |
| 146597           | 39 34 30 | 95 0 28   | 5    | 11.0   | 30    | 700    | <1.0   | .74  | .7       | .02      | .6   |
| 146205           | 39 32 31 | 94 46 58  | 5    | 8.2    | 30    | 1,000  | <1.0   | 1.50 | 1.5      | .02      | .4   |
| 145485           | 39 34 30 | 94 40 30  | 6    | 12.0   | 30    | 700    | <1.0   | 1.18 | 1.0      | .21      | .5   |
| 145611           | 39 40 1  | 94 52 58  | 6    | 6.5    | 30    | 700    | 1.0    | .93  | .8       | .12      | .6   |
| 145738           | 39 37 30 | 94 49 58  | 6    | 8.4    | 30    | 700    | <1.0   | 1.01 | 1.0      | .05      | .6   |
| 146529           | 39 40 58 | 94 37 58  | 5    | 11.0   | 20    | 700    | <1.0   | 1.08 | 1.0      | .01      | .6   |
| 145909           | 39 46 1  | 94 45 28  | 5    | 6.3    | 30    | 700    | 1.0    | 1.30 | 1.3      | .01      | .6   |
| 146263           | 39 44 31 | 94 36 28  | 5    | 8.2    | 30    | 700    | N      | 1.22 | 1.2      | .03      | .4   |
| Butler County    |          |           |      |        |       |        |        |      |          |          |      |
| 145693           | 36 52 58 | 90 37 30  | 3    | 5.9    | 30    | 700    | <1.0   | 2.03 | 2.0      | .02      | <.1  |
| 146029           | 36 48 14 | 90 22 58  | 2    | 9.5    | 30    | 150    | N      | .60  | .6       | .02      | .1   |
| 145688           | 36 52 1  | 90 15 28  | 4    | 7.4    | 30    | 700    | 1.0    | .84  | .8       | .04      | .1   |
| 146021           | 36 37 58 | 90 10 1   | 4    | 11.0   | 30    | 700    | <1.0   | .34  | .3       | .04      | .3   |
| 146043           | 36 40 58 | 90 18 43  | 2    | 4.8    | 30    | 500    | <1.0   | .75  | .7       | .03      | .1   |
| 145975           | 36 36 43 | 90 19 1   | 4    | 6.0    | 30    | 700    | <1.0   | .81  | .8       | .01      | .5   |
| 145998           | 36 40 58 | 90 22 58  | 3    | 7.0    | 30    | 500    | 1.0    | .61  | .6       | .02      | .1   |
| 146608           | 36 34 44 | 90 28 30  | 4    | 9.2    | 30    | 500    | <1.0   | .74  | .7       | .05      | .3   |
| 145830           | 36 36 43 | 90 27 28  | 4    | 9.6    | 30    | 500    | <1.0   | .81  | .7       | .07      | .1   |
| 146527           | 36 43 1  | 90 28 30  | 4    | 13.0   | <20   | 500    | N      | .54  | .5       | .02      | .1   |



Table 3.--Locations and concentrations of frequently detected elements for agricultural soils of Missouri--continued

| Sample           | Ce ppm | Co ppm | Cr ppm | Cu ppm | F%   | Fe % | Ga ppm | Hg ppm | I ppm | K % | La ppm |
|------------------|--------|--------|--------|--------|------|------|--------|--------|-------|-----|--------|
| Bollinger County |        |        |        |        |      |      |        |        |       |     |        |
| 146531           | <150   | 7      | 70     | 10     | .032 | 2.2  | 10     | <.01   | --    | 1.7 | 30     |
| 145541           | 150    | 7      | 30     | 10     | .028 | 1.3  | 10     | .03    | --    | 1.7 | 30     |
| 146065           | 150    | 7      | 70     | 15     | .017 | 1.8  | 15     | .04    | --    | 1.7 | 70     |
| 145551           | <150   | 15     | 70     | 10     | .096 | 2.1  | 10     | .06    | --    | 1.4 | 50     |
| 146329           | 150    | 7      | 70     | 15     | .029 | 2.7  | 15     | .04    | 4.91  | 1.4 | 50     |
| 145713           | <150   | 15     | 50     | 15     | .031 | 2.0  | 7      | .03    | --    | 1.7 | 50     |
| 146061           | 150    | 7      | 50     | 15     | .014 | 1.1  | 10     | .04    | --    | 1.2 | 70     |
| 145690           | <150   | 15     | 50     | 7      | .011 | 1.5  | 7      | .06    | --    | 1.3 | 30     |
| 145443           | 150    | 10     | 70     | 10     | .014 | 1.5  | 7      | .04    | --    | 1.2 | 30     |
| 145934           | <150   | 7      | 50     | 15     | .011 | 1.8  | 10     | <.01   | --    | 1.1 | 30     |
| Boone County     |        |        |        |        |      |      |        |        |       |     |        |
| 145775           | <150   | 15     | 70     | 15     | .029 | 2.7  | 15     | .04    | --    | 1.7 | 50     |
| 145504           | <150   | 10     | 70     | 15     | .064 | 2.0  | 15     | .04    | --    | 1.8 | 50     |
| 146315           | 150    | 7      | 70     | 20     | .045 | 2.8  | 20     | .04    | --    | 2.2 | 70     |
| 145918           | 150    | 10     | 30     | 7      | .020 | 1.8  | 10     | .02    | --    | 1.8 | 30     |
| 145649           | <150   | 7      | 30     | 10     | .024 | 2.0  | 10     | .12    | --    | 1.1 | 30     |
| 145593           | <150   | 15     | 70     | 15     | .026 | 3.1  | 15     | .02    | --    | 1.4 | 30     |
| 146356           | <150   | 7      | 70     | 15     | .020 | 2.4  | 15     | .02    | --    | 1.4 | 50     |
| 146308           | <150   | 7      | 70     | 15     | .023 | 2.4  | 15     | .06    | --    | .9  | 30     |
| 145616           | <150   | 7      | 50     | 10     | .017 | 1.8  | 15     | .10    | --    | 1.0 | 30     |
| 146305           | <150   | 10     | 70     | 15     | .037 | 2.4  | 15     | .12    | 2.47  | 1.6 | 50     |
| Buchanan County  |        |        |        |        |      |      |        |        |       |     |        |
| 145885           | <150   | 7      | 70     | 15     | .028 | 2.2  | 15     | .03    | --    | 2.1 | 50     |
| 145420           | <150   | 7      | 50     | 20     | .160 | 2.6  | 15     | .05    | --    | 2.2 | 50     |
| 146597           | <150   | 10     | 70     | 15     | .039 | 2.4  | 15     | .03    | --    | 1.9 | 30     |
| 146205           | 150    | 10     | 70     | 15     | .023 | 1.9  | 15     | .04    | --    | 1.9 | 70     |
| 145485           | 150    | 7      | 70     | 20     | .036 | 2.8  | 15     | .07    | --    | 1.9 | 70     |
| 145611           | 150    | 10     | 70     | 15     | .031 | 2.7  | 15     | .05    | --    | 2.0 | 30     |
| 145738           | 150    | 7      | 70     | 10     | .029 | 2.5  | 15     | .02    | 3.43  | 1.9 | 50     |
| 146529           | <150   | 7      | 70     | 15     | .037 | 2.5  | 15     | .02    | --    | 1.8 | 30     |
| 145909           | 150    | 10     | 70     | 10     | .027 | 2.3  | 15     | .02    | --    | 2.0 | 30     |
| 146263           | <150   | 7      | 50     | 15     | .023 | 2.1  | 15     | .02    | --    | 1.7 | 50     |
| Butler County    |        |        |        |        |      |      |        |        |       |     |        |
| 145693           | <150   | 7      | 70     | 10     | .043 | 1.4  | 7      | .08    | --    | 1.2 | 30     |
| 146029           | N      | 10     | 15     | 15     | .009 | 1.0  | <5     | .04    | --    | .7  | N      |
| 145688           | <150   | 7      | 30     | 10     | .020 | 1.6  | 7      | .08    | --    | 1.5 | 30     |
| 146021           | <150   | 10     | 30     | 15     | .022 | 2.3  | 15     | .03    | --    | 1.7 | 30     |
| 146043           | <150   | 10     | 30     | 15     | .400 | 1.3  | 5      | .02    | --    | 1.2 | 30     |
| 145975           | <150   | 7      | 30     | 10     | .016 | 1.6  | 10     | .04    | --    | 1.6 | 30     |
| 145998           | 150    | 7      | 30     | 15     | .014 | 1.6  | 7      | .04    | --    | 1.3 | 50     |
| 146608           | <150   | 7      | 30     | 10     | .016 | 1.8  | 7      | .04    | --    | 1.2 | 30     |
| 145830           | 150    | 15     | 50     | 20     | .021 | 2.2  | 15     | .04    | 4.64  | 1.2 | 50     |
| 146527           | <150   | 7      | 50     | 15     | .032 | 2.7  | 15     | .02    | --    | 1.6 | 30     |

Table 3.--Locations and concentrations of frequently detected elements for agricultural soils of Missouri--continued

| Sample           | Li ppm | Mg % | Mn ppm | Na % | Nb ppm | Nd ppm | Ni ppm | P % | Pb ppm | Sc ppm | Se ppm |
|------------------|--------|------|--------|------|--------|--------|--------|-----|--------|--------|--------|
| Bollinger County |        |      |        |      |        |        |        |     |        |        |        |
| 146531           | 28     | .30  | 150    | .48  | <10    | <70    | 15     | .03 | 15     | 7      | .7     |
| 145541           | 16     | .21  | 700    | .72  | <10    | 70     | 15     | .07 | 15     | 7      | .4     |
| 146065           | 21     | .22  | 1,500  | .55  | 10     | 70     | 15     | .04 | 20     | 7      | <.1    |
| 145551           | 20     | .24  | 1,000  | .59  | <10    | <70    | 15     | .04 | 20     | 7      | .4     |
| 146329           | 29     | .35  | 200    | .36  | <10    | 70     | 15     | .04 | 15     | 15     | .4     |
| 145713           | 21     | .25  | 1,000  | .54  | <10    | 70     | 15     | .03 | 20     | 7      | .4     |
| 146061           | 18     | .19  | 500    | .47  | 10     | 70     | 7      | .02 | 20     | 7      | .3     |
| 145690           | 20     | .16  | 1,000  | .39  | <10    | <70    | 7      | .03 | 15     | 7      | .3     |
| 145443           | 19     | .17  | 300    | .36  | 10     | <70    | 7      | .04 | 20     | 7      | .3     |
| 145934           | 15     | .17  | 1,000  | .36  | 15     | <70    | 7      | .09 | 20     | 7      | .3     |
| Boone County     |        |      |        |      |        |        |        |     |        |        |        |
| 145775           | 25     | .39  | 1,500  | .74  | 10     | 70     | 20     | .06 | 30     | 15     | .3     |
| 145504           | 23     | .40  | 300    | .91  | 10     | 70     | 15     | .03 | 15     | 10     | .3     |
| 146315           | 31     | .63  | 700    | .85  | <10    | 70     | 20     | .09 | 20     | 15     | .6     |
| 145918           | 37     | .37  | 1,000  | 1.06 | 10     | 70     | 7      | .09 | 15     | 7      | <.1    |
| 145649           | 20     | .21  | 500    | .42  | <10    | <70    | 10     | .03 | 20     | 7      | .5     |
| 145593           | 24     | .34  | 1,500  | .69  | <10    | <70    | 15     | .05 | 30     | 7      | 1.5    |
| 146356           | 19     | .25  | 700    | .80  | <10    | 70     | 10     | .09 | 20     | 7      | .9     |
| 146308           | 25     | .28  | 300    | .38  | <10    | <70    | 15     | .04 | 15     | 7      | <.1    |
| 145616           | 23     | .21  | 300    | .47  | <10    | <70    | 7      | .03 | 20     | 7      | .2     |
| 146305           | 26     | .50  | 700    | .70  | <10    | 70     | 15     | .04 | 15     | 10     | .2     |
| Buchanan County  |        |      |        |      |        |        |        |     |        |        |        |
| 145885           | 19     | .40  | 500    | 1.00 | <10    | 70     | 30     | .13 | 15     | 7      | .1     |
| 145420           | 27     | .92  | 500    | .82  | <10    | <70    | 20     | .10 | 15     | 7      | .5     |
| 146597           | 27     | .51  | 700    | .90  | <10    | 70     | 20     | .09 | 15     | 7      | .3     |
| 146205           | 21     | .33  | 700    | .94  | 10     | 70     | 15     | .09 | 15     | 10     | .2     |
| 145485           | 28     | .54  | 700    | .70  | <10    | 70     | 30     | .04 | 15     | 10     | .4     |
| 145611           | 25     | .54  | 1,000  | .96  | <10    | 70     | 30     | .06 | 15     | 10     | .5     |
| 145738           | 25     | .48  | 300    | .85  | <10    | 70     | 30     | .06 | 15     | 7      | .6     |
| 146529           | 24     | .48  | 700    | .75  | <10    | <70    | 15     | .04 | 15     | 7      | .3     |
| 145909           | 24     | .44  | 1,000  | .84  | <10    | 70     | 30     | .09 | 15     | 10     | <.1    |
| 146263           | 23     | .26  | 500    | .62  | <10    | 70     | 15     | .09 | 15     | 7      | <.1    |
| Butler County    |        |      |        |      |        |        |        |     |        |        |        |
| 145693           | 22     | .16  | 1,000  | .27  | 10     | 70     | 10     | .03 | 20     | 7      | .7     |
| 146029           | 11     | .10  | 500    | .13  | <10    | --     | 7      | .09 | 15     | 5      | <.1    |
| 145688           | 19     | .19  | 1,500  | .42  | 10     | 70     | 15     | .07 | 30     | 7      | .6     |
| 146021           | 18     | .29  | 1,500  | .78  | <10    | <70    | 20     | .09 | 20     | 7      | .2     |
| 146043           | 16     | .15  | 700    | .32  | <10    | 70     | 10     | .04 | 30     | 7      | <.1    |
| 145975           | 17     | .21  | 1,500  | .79  | <10    | <70    | 10     | .09 | 20     | 7      | <.1    |
| 145998           | 21     | .16  | 300    | .31  | 15     | 70     | 10     | .04 | 70     | 7      | .4     |
| 146608           | 19     | .16  | 700    | .66  | <10    | <70    | 7      | .04 | 15     | 5      | .6     |
| 145830           | 25     | .22  | 1,500  | .36  | 10     | <70    | 15     | .04 | 30     | 7      | .3     |
| 146527           | 26     | .30  | 300    | .47  | <10    | <70    | 10     | .03 | 15     | 7      | .9     |

Table 3.--Locations and concentrations of frequently detected elements for agricultural soils of Missouri--continued

| Sample           | Si % | Sr ppm | Th ppm | Ti % | U ppm | V ppm | Y ppm | Yb ppm | Zn ppm | Zr ppm |
|------------------|------|--------|--------|------|-------|-------|-------|--------|--------|--------|
| Bollinger County |      |        |        |      |       |       |       |        |        |        |
| 146531           | 36   | 70     | --     | .30  | --    | 70    | 30    | 3.0    | 63     | 300    |
| 145541           | 36   | 100    | 9.92   | .30  | 2.69  | 50    | 30    | 3.0    | 76     | 300    |
| 146065           | 33   | 150    | --     | .50  | --    | 70    | 50    | 5.0    | 44     | 700    |
| 145551           | 35   | 100    | --     | .30  | --    | 70    | 30    | 3.0    | 48     | 500    |
| 146329           | 34   | 150    | --     | .30  | --    | 150   | 30    | 3.0    | 70     | 300    |
| 145713           | 36   | 100    | --     | .30  | --    | 70    | 70    | 7.0    | 50     | 700    |
| 146061           | 34   | 100    | --     | .50  | --    | 70    | 30    | 3.0    | 33     | 500    |
| 145690           | 38   | 70     | 8.82   | .50  | 3.79  | 50    | 30    | 3.0    | 36     | 700    |
| 145443           | 37   | 70     | --     | .50  | --    | 50    | 30    | 3.0    | 40     | 500    |
| 145934           | 36   | 70     | --     | .50  | --    | 70    | 30    | 3.0    | 28     | 700    |
| Boone County     |      |        |        |      |       |       |       |        |        |        |
| 145775           | 35   | 150    | --     | .50  | --    | 100   | 30    | 3.0    | 51     | 300    |
| 145504           | 33   | 150    | --     | .50  | --    | 70    | 30    | 3.0    | 54     | 700    |
| 146315           | 31   | 300    | --     | .30  | --    | 150   | 30    | 3.0    | 96     | 200    |
| 145918           | 35   | 100    | --     | .30  | --    | 70    | 30    | 3.0    | 80     | 500    |
| 145649           | 36   | 100    | --     | .30  | --    | 70    | 30    | 3.0    | 53     | 300    |
| 145593           | 35   | 150    | --     | .30  | --    | 70    | 30    | 3.0    | 53     | 300    |
| 146356           | 35   | 150    | --     | .30  | --    | 70    | 30    | 3.0    | 43     | 300    |
| 146308           | 36   | 150    | --     | .30  | --    | 70    | 30    | 3.0    | 39     | 300    |
| 145616           | 37   | 100    | 6.61   | .30  | 2.76  | 70    | 20    | 3.0    | 35     | 300    |
| 146305           | 33   | 200    | 11.08  | .30  | 4.17  | 150   | 50    | 5.0    | 56     | 300    |
| Buchanan County  |      |        |        |      |       |       |       |        |        |        |
| 145885           | 35   | 200    | 6.75   | .50  | 3.39  | 70    | 30    | 3.0    | 67     | 500    |
| 145420           | 31   | 150    | --     | .30  | --    | 100   | 30    | 2.0    | 108    | 150    |
| 146597           | 34   | 200    | --     | .30  | --    | 70    | 30    | 3.0    | 64     | 300    |
| 146205           | 35   | 200    | --     | .50  | --    | 70    | 50    | 5.0    | 50     | 500    |
| 145485           | 33   | 150    | --     | .30  | --    | 100   | 30    | 3.0    | 73     | 300    |
| 145611           | 33   | 150    | 11.35  | .30  | 3.62  | 70    | 30    | 3.0    | 75     | 300    |
| 145738           | 38   | 150    | --     | .30  | --    | 70    | 30    | 3.0    | 61     | 300    |
| 146529           | 32   | 150    | --     | .30  | --    | 70    | 30    | 3.0    | 64     | 500    |
| 145909           | 32   | 150    | --     | .50  | --    | 100   | 30    | 3.0    | 62     | 500    |
| 146263           | 35   | 150    | --     | .30  | --    | 70    | 30    | 3.0    | 47     | 300    |
| Butler County    |      |        |        |      |       |       |       |        |        |        |
| 145693           | 37   | 70     | --     | .50  | --    | 70    | 30    | 3.0    | 41     | 700    |
| 146029           | 38   | 30     | --     | .15  | --    | 30    | 20    | 2.0    | 32     | 300    |
| 145688           | 37   | 70     | 6.17   | .50  | 4.40  | 70    | 50    | 5.0    | 73     | 700    |
| 146021           | 34   | 150    | --     | .30  | --    | 70    | 30    | 3.0    | 47     | 300    |
| 146043           | 36   | 70     | --     | .30  | --    | 30    | 30    | 3.0    | 44     | 300    |
| 145975           | 34   | 150    | 7.06   | .20  | 2.69  | 50    | 30    | 3.0    | 38     | 300    |
| 145998           | 35   | 70     | --     | .30  | --    | 70    | 50    | 3.0    | 42     | 300    |
| 146608           | 36   | 150    | --     | .30  | --    | 50    | 20    | 3.0    | 33     | 300    |
| 145830           | 38   | 100    | --     | .50  | --    | 70    | 30    | 3.0    | 52     | 300    |
| 146527           | 35   | 70     | --     | .30  | --    | 70    | 20    | 3.0    | 46     | 300    |

Table 3.--Locations and concentrations of frequently detected elements for agricultural soils of Missouri--continued

| Sample                | Latitude | Longitude | Al % | As ppm | B ppm | Ba ppm | Be ppm | C %  | C org. % | C crb. % | Ca % |
|-----------------------|----------|-----------|------|--------|-------|--------|--------|------|----------|----------|------|
| Caldwell County       |          |           |      |        |       |        |        |      |          |          |      |
| 146142                | 39 33 0  | 93 48 0   | 6    | 9.4    | 30    | 700    | 1.0    | 1.78 | 1.8      | .01      | .6   |
| 146436                | 39 40 1  | 93 58 1   | 5    | 11.0   | 20    | 700    | 1.0    | 1.91 | 1.9      | .05      | .5   |
| 145422                | 39 37 1  | 94 4 1    | 5    | 12.0   | 20    | 700    | 1.5    | 1.25 | 1.2      | .09      | .4   |
| 146281                | 39 34 58 | 93 58 1   | 6    | 16.0   | 30    | 700    | 1.0    | 1.52 | 1.5      | .04      | .5   |
| 146098                | 39 45 0  | 93 57 0   | 5    | 10.0   | 30    | 500    | 1.0    | 1.14 | 1.1      | .01      | .4   |
| 146069                | 39 42 0  | 93 55 1   | 5    | 9.8    | 30    | 700    | 1.0    | 2.18 | 2.1      | .04      | .4   |
| 146395                | 39 34 1  | 94 3 0    | 5    | 12.0   | 20    | 500    | <1.0   | 1.84 | 1.8      | <.01     | .5   |
| 145972                | 39 43 58 | 94 7 58   | 4    | 7.6    | 30    | 700    | <1.0   | .99  | 1.0      | <.01     | .4   |
| 146610                | 39 37 58 | 94 1 1    | 4    | 10.0   | 20    | 500    | N      | 1.50 | 1.5      | .01      | .5   |
| 146235                | 39 43 58 | 94 3 0    | 5    | 8.8    | 30    | 500    | N      | 1.79 | 1.8      | .02      | .6   |
| Callaway County       |          |           |      |        |       |        |        |      |          |          |      |
| 146064                | 38 37 58 | 92 0 0    | 5    | 16.0   | 30    | 700    | 1.0    | 1.28 | 1.3      | .02      | .3   |
| 145576                | 38 45 0  | 91 55 58  | 3    | 11.0   | 30    | 700    | 1.5    | .93  | .8       | .08      | .1   |
| 145516                | 39 1 58  | 92 1 1    | 5    | 14.0   | 30    | 700    | 1.0    | 1.43 | 1.3      | .10      | .4   |
| 145481                | 38 46 1  | 91 45 0   | 5    | 16.0   | 50    | 700    | <1.0   | 1.41 | 1.4      | .04      | .4   |
| 145923                | 38 48 0  | 91 51 0   | 4    | 9.4    | 30    | 700    | 1.0    | 1.07 | 1.0      | .04      | .3   |
| 146110                | 38 42 0  | 92 1 58   | 4    | 16.0   | 30    | 700    | 1.0    | 1.39 | 1.4      | .02      | .4   |
| 146155                | 38 54 0  | 92 0 0    | 5    | 14.0   | 30    | 500    | <1.0   | 1.03 | 1.0      | .02      | .4   |
| 145722                | 38 58 58 | 92 6 0    | 5    | 15.0   | 30    | 700    | <1.0   | .70  | .7       | .04      | .2   |
| 146152                | 38 54 0  | 91 52 58  | 4    | 9.6    | 30    | 500    | <1.0   | 1.16 | 1.2      | <.01     | .4   |
| 145465                | 38 37 58 | 91 55 1   | 5    | 6.0    | 30    | 700    | N      | 1.84 | 1.7      | .10      | .6   |
| Camden County         |          |           |      |        |       |        |        |      |          |          |      |
| 146357                | 37 59 31 | 92 58 58  | 2    | 4.5    | 30    | 700    | N      | 2.60 | 2.5      | .07      | .7   |
| 146138                | 37 54 0  | 92 57 0   | 4    | 18.0   | 30    | 700    | 1.0    | 1.94 | 1.9      | .07      | .6   |
| 146498                | 38 1 58  | 92 42 0   | 3    | 3.6    | 30    | 700    | <1.0   | 2.38 | 2.1      | .27      | 1.1  |
| 145770                | 37 58 58 | 92 37 58  | 4    | 14.0   | 30    | 700    | N      | 1.71 | 1.5      | .18      | 1.1  |
| 145725                | 38 7 44  | 93 0 0    | 4    | 6.5    | 30    | 700    | <1.0   | .88  | .8       | .03      | .1   |
| 145990                | 38 0 0   | 92 31 58  | 3    | 7.6    | 30    | 700    | 1.0    | 1.62 | 1.6      | .04      | .4   |
| 145594                | 38 4 1   | 92 43 1   | 3    | 4.8    | 30    | 500    | N      | 2.25 | 2.2      | .06      | .2   |
| 146511                | 38 6 43  | 92 49 30  | 3    | 6.3    | 20    | 300    | N      | .87  | .8       | .02      | .1   |
| 146268                | 37 57 43 | 92 40 44  | 3    | 5.0    | 30    | 300    | N      | 1.56 | 1.6      | <.01     | .1   |
| 145915                | 37 52 30 | 92 30 14  | 3    | 5.4    | 70    | 700    | 1.0    | 1.58 | 1.6      | .03      | .1   |
| Cape Girardeau County |          |           |      |        |       |        |        |      |          |          |      |
| 146057                | 37 27 0  | 89 48 28  | 2    | 3.4    | 30    | 300    | N      | .49  | .5       | .02      | .1   |
| 145851                | 37 30 0  | 89 45 0   | 4    | 8.5    | 50    | 100    | N      | .64  | .5       | .10      | .7   |
| 145497                | 37 34 58 | 89 39 0   | 5    | 6.9    | 50    | 700    | 1.0    | .64  | .6       | .05      | .4   |
| 146326                | 37 23 31 | 89 43 1   | 5    | 12.0   | 30    | 1,000  | 1.0    | .67  | .6       | .02      | .2   |
| 145628                | 37 25 58 | 89 37 30  | 4    | 8.9    | 50    | 700    | 1.0    | .94  | .9       | .07      | .4   |
| 145765                | 37 17 31 | 89 45 28  | 4    | 9.1    | 30    | 700    | <1.0   | 1.22 | 1.1      | .15      | .8   |
| 145476                | 37 28 30 | 89 31 30  | 5    | 8.6    | 50    | 700    | 1.0    | 1.24 | 1.2      | .06      | .5   |
| 145558                | 37 19 58 | 89 44 31  | 5    | 11.0   | 30    | 700    | 1.0    | .76  | .6       | .09      | .4   |
| 146354                | 37 16 30 | 89 36 57  | 5    | 9.6    | 50    | 700    | N      | .89  | .9       | .02      | .4   |
| 145944                | 37 10 58 | 89 43 1   | 5    | 7.4    | 30    | 700    | 1.0    | .85  | .8       | .03      | .4   |

Table 3.--Locations and concentrations of frequently detected elements for agricultural soils of Missouri--continued

| Sample                | Ce ppm | Co ppm | Cr ppm | Cu ppm | F%   | Fe % | Ga ppm | Hg ppm | I ppm | K % | La ppm |
|-----------------------|--------|--------|--------|--------|------|------|--------|--------|-------|-----|--------|
| Caldwell County       |        |        |        |        |      |      |        |        |       |     |        |
| 146142                | 150    | 15     | 70     | 20     | .013 | 2.8  | 15     | .03    | --    | 1.6 | 50     |
| 146436                | <150   | 10     | 70     | 15     | .030 | 2.4  | 15     | .03    | --    | 1.5 | 30     |
| 145422                | <150   | 15     | 50     | 15     | .140 | 2.0  | 15     | .06    | --    | 1.8 | 50     |
| 146281                | <150   | 15     | 70     | 15     | .030 | 2.9  | 15     | .04    | --    | 1.4 | 50     |
| 146098                | 150    | 15     | 30     | 15     | .023 | 2.0  | 15     | .04    | 3.54  | 1.5 | 50     |
| 146069                | 150    | 15     | 70     | 20     | .024 | 2.4  | 15     | .04    | --    | 1.4 | 50     |
| 146395                | <150   | 10     | 50     | 10     | .034 | 2.7  | 15     | .04    | --    | 1.4 | 30     |
| 145972                | <150   | 10     | 70     | 15     | .017 | 1.9  | 15     | .04    | --    | 1.4 | 50     |
| 146610                | <150   | 7      | 50     | 15     | .024 | 2.2  | 15     | .04    | --    | 1.1 | 30     |
| 146235                | <150   | 7      | 50     | 15     | .027 | 2.1  | 15     | .03    | --    | 1.2 | 30     |
| Callaway County       |        |        |        |        |      |      |        |        |       |     |        |
| 146064                | 150    | 5      | 70     | 15     | .028 | 2.9  | 15     | .05    | --    | 1.4 | 30     |
| 145576                | <150   | 15     | 70     | 15     | .092 | 2.0  | 20     | .05    | --    | 1.2 | 30     |
| 145510                | 150    | 15     | 70     | 15     | .066 | 2.8  | 15     | .05    | --    | 1.2 | 30     |
| 145481                | 150    | 15     | 70     | 15     | .029 | 2.8  | 15     | .05    | 5.05  | 1.2 | 50     |
| 145923                | <150   | 10     | 70     | 10     | .028 | 2.5  | 15     | .04    | --    | 1.2 | 30     |
| 146110                | 150    | 15     | 70     | 10     | .020 | 2.5  | 15     | .04    | --    | 1.4 | 50     |
| 146155                | <150   | 15     | 70     | 10     | .050 | 2.4  | 10     | .04    | --    | 1.0 | 30     |
| 145722                | <150   | 7      | 50     | 15     | .033 | 2.9  | 10     | .03    | --    | 1.5 | 50     |
| 146152                | <150   | 15     | 70     | 10     | .027 | 2.0  | 10     | .06    | --    | 1.4 | 30     |
| 145465                | 150    | 7      | 70     | 15     | .028 | 1.8  | 15     | .06    | --    | 1.8 | 50     |
| Camden County         |        |        |        |        |      |      |        |        |       |     |        |
| 146357                | <150   | 7      | 70     | 15     | .007 | 1.1  | 7      | .06    | 1.98  | 1.0 | 30     |
| 146138                | 150    | 15     | 70     | 50     | .024 | 2.4  | 15     | .04    | --    | 1.3 | 70     |
| 146498                | <150   | 7      | 50     | 15     | .026 | 1.3  | 15     | .04    | --    | 1.4 | 30     |
| 145770                | <150   | 15     | 50     | 20     | .018 | 2.7  | 7      | .05    | --    | 1.3 | 30     |
| 145725                | <150   | 7      | 70     | 7      | .017 | 1.5  | 15     | .04    | --    | 1.4 | 30     |
| 145990                | 150    | 15     | 70     | 20     | .013 | 1.5  | 7      | .14    | --    | 1.4 | 50     |
| 145594                | <150   | 10     | 70     | 15     | .013 | 1.4  | 7      | .04    | --    | 1.2 | 50     |
| 146511                | <150   | 5      | 30     | 7      | .020 | .9   | 7      | .02    | --    | 1.1 | 30     |
| 146268                | <150   | 7      | 30     | 15     | .010 | 1.0  | 7      | .03    | --    | .7  | 30     |
| 145915                | <150   | 7      | 30     | 15     | .012 | 1.2  | 7      | .03    | --    | 1.2 | 30     |
| Cape Girardeau County |        |        |        |        |      |      |        |        |       |     |        |
| 146057                | <150   | 7      | 30     | 7      | .010 | .8   | 7      | .03    | --    | .8  | 30     |
| 145851                | <150   | 10     | 70     | 15     | .021 | 2.2  | 10     | .05    | --    | 1.8 | 50     |
| 145497                | 150    | 10     | 70     | 15     | .150 | 2.1  | 15     | .05    | --    | 1.7 | 70     |
| 146326                | 150    | 15     | 70     | 15     | .028 | 2.7  | 15     | .04    | 5.33  | 1.8 | 70     |
| 145628                | <150   | 15     | 70     | 10     | .025 | 1.9  | 7      | .13    | --    | 1.7 | 50     |
| 145765                | <150   | 10     | 70     | 10     | .015 | 1.9  | 7      | .04    | --    | 1.7 | 50     |
| 145476                | <150   | 15     | 50     | 10     | .140 | 1.8  | 7      | .07    | --    | 1.7 | 30     |
| 145558                | 150    | 15     | 70     | 20     | .150 | 2.3  | 15     | .05    | --    | 1.8 | 70     |
| 146354                | 150    | 10     | 70     | 15     | .021 | 2.1  | 15     | .06    | --    | 1.7 | 50     |
| 145944                | <150   | 15     | 70     | 15     | .026 | 2.1  | 15     | .04    | --    | 2.0 | 50     |



Table 3.--Locations and concentrations of frequently detected elements for agricultural soils of Missouri--continued

| Sample                | Li ppm | Mg % | Mn ppm | Na % | Nb ppm | Nd ppm | Ni ppm | P %  | Pb ppm | Sc ppm | Se ppm |
|-----------------------|--------|------|--------|------|--------|--------|--------|------|--------|--------|--------|
| Caldwell County       |        |      |        |      |        |        |        |      |        |        |        |
| 146142                | 31     | .43  | 700    | .69  | <10    | 70     | 30     | .09  | 20     | 15     | .4     |
| 146436                | 25     | .38  | 700    | .70  | <10    | <70    | 15     | .04  | 20     | 7      | .9     |
| 145422                | 20     | .34  | 1,500  | .79  | <10    | 70     | 15     | .08  | 15     | 10     | .7     |
| 146281                | 27     | .66  | 1,000  | .70  | <10    | 70     | 15     | .04  | 30     | 7      | 1.1    |
| 146098                | 22     | .33  | 1,000  | .69  | 10     | 70     | 20     | .04  | 30     | 7      | <.1    |
| 146069                | 31     | .33  | 1,000  | .51  | <10    | 70     | 30     | .04  | 20     | 10     | <.1    |
| 146395                | 27     | .33  | 700    | .56  | <10    | 70     | 15     | .04  | 15     | 7      | .7     |
| 145972                | 23     | .24  | 300    | .58  | 10     | 70     | 15     | .04  | 15     | 7      | .2     |
| 146610                | 27     | .27  | 200    | .48  | <10    | <70    | 15     | .04  | 15     | 7      | 1.2    |
| 146235                | 25     | .29  | 300    | .55  | <10    | 70     | 15     | .04  | 15     | 7      | .4     |
| Callaway County       |        |      |        |      |        |        |        |      |        |        |        |
| 146064                | 24     | .32  | 1,500  | .69  | 10     | 70     | 15     | .04  | 30     | 10     | .4     |
| 145576                | 33     | .51  | 500    | .57  | <10    | <70    | 15     | .03  | 30     | 10     | .5     |
| 145510                | 25     | .39  | 1,000  | .55  | <10    | 70     | 20     | .07  | 20     | 10     | .6     |
| 145481                | 26     | .37  | 1,000  | .56  | <10    | 70     | 15     | .06  | 30     | 10     | .8     |
| 145923                | 24     | .27  | 500    | .55  | 10     | 70     | 10     | .04  | 20     | 7      | .5     |
| 146110                | 21     | .33  | 1,500  | .82  | <10    | 70     | 15     | .09  | 30     | 7      | .3     |
| 146155                | 25     | .20  | 700    | .53  | <10    | <70    | 15     | .04  | 20     | 7      | .3     |
| 145722                | 25     | .33  | 500    | .71  | <10    | 70     | 10     | .03  | 15     | 10     | 1.4    |
| 146152                | 25     | .34  | 700    | .63  | <10    | <70    | 15     | .03  | 20     | 7      | <.1    |
| 145465                | 23     | .33  | 700    | .57  | <10    | 70     | 20     | .09  | 20     | 7      | .6     |
| Camden County         |        |      |        |      |        |        |        |      |        |        |        |
| 146357                | 17     | .17  | 1,000  | .28  | <10    | <70    | 10     | .17  | 30     | 7      | .1     |
| 146138                | 25     | .43  | 1,000  | .46  | 10     | 70     | 15     | .13  | 30     | 7      | .4     |
| 146498                | 18     | .28  | 1,500  | .40  | <10    | <70    | 10     | .17  | 30     | 7      | .5     |
| 145770                | 22     | .28  | 700    | .38  | <10    | 70     | 15     | .24  | 30     | 7      | .2     |
| 145725                | 21     | .22  | 500    | .48  | <10    | 70     | 7      | <.02 | 15     | 7      | .5     |
| 145990                | 19     | .16  | 1,500  | .33  | <10    | 70     | 15     | .22  | 50     | 7      | <.1    |
| 145594                | 21     | .16  | 1,000  | .33  | <10    | 70     | 15     | .10  | 50     | 7      | .4     |
| 146511                | 19     | .12  | 150    | .29  | <10    | <70    | 7      | .03  | 15     | <5     | .2     |
| 146268                | 19     | .11  | 700    | .24  | 10     | <70    | 5      | .03  | 20     | 5      | .4     |
| 145915                | 21     | .14  | 1,000  | .36  | 15     | <70    | 7      | .09  | 20     | 5      | <.1    |
| Cape Girardeau County |        |      |        |      |        |        |        |      |        |        |        |
| 146057                | 10     | .10  | 1,000  | .32  | <10    | N      | 7      | .04  | 20     | <5     | <.1    |
| 145851                | 22     | .30  | 1,000  | .57  | <10    | 70     | 20     | .05  | 20     | 7      | <.1    |
| 145497                | 19     | .32  | 1,000  | .78  | 10     | 70     | 15     | .06  | 20     | 10     | .4     |
| 146326                | 24     | .41  | 700    | .53  | 10     | 70     | 20     | .09  | 15     | 15     | .3     |
| 145628                | 21     | .25  | 1,500  | .65  | <10    | 70     | 15     | .06  | 20     | 7      | .4     |
| 145765                | 19     | .25  | 700    | .63  | <10    | 70     | 15     | .05  | 15     | 7      | .4     |
| 145476                | 24     | .27  | 1,500  | .65  | <10    | <70    | 15     | .09  | 15     | 7      | .9     |
| 145558                | 23     | .36  | 1,500  | .62  | 10     | 70     | 20     | .07  | 15     | 7      | .6     |
| 146354                | 18     | .31  | 1,000  | .74  | 10     | 70     | 15     | .09  | 20     | 7      | <.1    |
| 145944                | 21     | .30  | 1,500  | .71  | 10     | 70     | 20     | .09  | 20     | 7      | <.1    |

Table 3.--Locations and concentrations of frequently detected elements for agricultural soils of Missouri--continued

| Sample                | Si % | Sr ppm | Th ppm | Ti % | U ppm | V ppm | Y ppm | Yb ppm | Zn ppm | Zr ppm |
|-----------------------|------|--------|--------|------|-------|-------|-------|--------|--------|--------|
| Caldwell County       |      |        |        |      |       |       |       |        |        |        |
| 146142                | 30   | 150    | --     | .30  | --    | 100   | 30    | 5.0    | 74     | 200    |
| 146436                | 33   | 150    | --     | .30  | --    | 70    | 30    | 3.0    | 54     | 300    |
| 145422                | 36   | 150    | --     | .30  | --    | 70    | 30    | 3.0    | 57     | 300    |
| 146281                | 32   | 150    | --     | .30  | --    | 100   | 30    | 3.0    | 60     | 300    |
| 146098                | 36   | 100    | 7.07   | .30  | 4.44  | 70    | 30    | 3.0    | 44     | 300    |
| 146069                | 34   | 150    | --     | .30  | --    | 70    | 30    | 3.0    | 57     | 300    |
| 146395                | 33   | 100    | --     | .20  | --    | 70    | 30    | 3.0    | 55     | 150    |
| 145972                | 35   | 100    | --     | .50  | 5.70  | 70    | 30    | 3.0    | 41     | 500    |
| 146610                | 35   | 150    | --     | .30  | --    | 70    | 30    | 3.0    | 39     | 300    |
| 146235                | 36   | 150    | --     | .30  | --    | 70    | 30    | 3.0    | 42     | 300    |
| Callaway County       |      |        |        |      |       |       |       |        |        |        |
| 146064                | 32   | 150    | --     | .50  | --    | 100   | 50    | 5.0    | 52     | 300    |
| 145576                | 40   | 150    | --     | .30  | --    | 100   | 30    | 3.0    | 54     | 300    |
| 145510                | 32   | 100    | 6.15   | .50  | 4.30  | 100   | 30    | 3.0    | 72     | 500    |
| 145481                | 33   | 150    | --     | .30  | --    | 150   | 30    | 3.0    | 55     | 300    |
| 145923                | 33   | 150    | --     | .30  | --    | 70    | 30    | 3.0    | 45     | 300    |
| 146110                | 34   | 150    | --     | .30  | --    | 100   | 50    | 5.0    | 50     | 200    |
| 146155                | 33   | 100    | --     | .30  | --    | 100   | 30    | 3.0    | 54     | 300    |
| 145722                | 34   | 150    | --     | .30  | --    | 70    | 30    | 3.0    | 54     | 200    |
| 146152                | 35   | 150    | --     | .30  | 4.70  | 70    | 30    | 3.0    | 44     | 300    |
| 145465                | 34   | 150    | --     | .20  | --    | 70    | 30    | 5.0    | 56     | 500    |
| Camden County         |      |        |        |      |       |       |       |        |        |        |
| 146357                | 38   | 150    | --     | .30  | --    | 30    | 30    | 3.0    | 65     | 300    |
| 146138                | 35   | 150    | --     | .30  | --    | 70    | 30    | 5.0    | 66     | 300    |
| 146498                | 36   | 150    | --     | .30  | --    | 30    | 30    | 3.0    | 88     | 300    |
| 145770                | 35   | 150    | 10.65  | .30  | 4.40  | 70    | 30    | 3.0    | 88     | 300    |
| 145725                | 38   | 100    | --     | .50  | --    | 70    | 30    | 3.0    | 41     | 500    |
| 145990                | 36   | 100    | --     | .30  | --    | 70    | 30    | 3.0    | 58     | 300    |
| 145594                | 38   | 70     | 7.14   | .30  | 3.63  | 50    | 30    | 3.0    | 89     | 200    |
| 146511                | 41   | 70     | --     | .30  | --    | 30    | 20    | 3.0    | 36     | 300    |
| 146268                | 40   | 50     | --     | .30  | --    | 30    | 30    | 3.0    | 24     | 300    |
| 145915                | 36   | 70     | --     | .30  | --    | 50    | 30    | 3.0    | 33     | 500    |
| Cape Girardeau County |      |        |        |      |       |       |       |        |        |        |
| 146057                | 38   | 70     | --     | .30  | --    | 30    | 20    | 2.0    | 25     | 300    |
| 145851                | 37   | 150    | 10.66  | .50  | 3.51  | 70    | 30    | 3.0    | 53     | 300    |
| 145497                | 34   | 150    | --     | .50  | --    | 100   | 50    | 5.0    | 52     | 300    |
| 146326                | 35   | 150    | --     | .30  | --    | 150   | 50    | 5.0    | 67     | 150    |
| 145628                | 36   | 100    | --     | .30  | --    | 70    | 30    | 3.0    | 51     | 200    |
| 145765                | 37   | 150    | --     | .30  | --    | 70    | 30    | 3.0    | 45     | 500    |
| 145476                | 35   | 100    | --     | .30  | --    | 70    | 30    | 3.0    | 57     | 300    |
| 145558                | 34   | 150    | 10.54  | .50  | 4.01  | 70    | 50    | 3.0    | 86     | 500    |
| 146354                | 36   | 200    | --     | .30  | --    | 70    | 50    | 7.0    | 63     | 500    |
| 145944                | 33   | 150    | --     | .50  | --    | 70    | 30    | 3.0    | 54     | 300    |



Table 3.--Locations and concentrations of frequently detected elements for agricultural soils of Missouri--continued

| Sample         | Latitude | Longitude | Al % | As ppm | B ppm | Ba ppm | Be ppm | C %  | C org. % | C crb. % | Ca % |
|----------------|----------|-----------|------|--------|-------|--------|--------|------|----------|----------|------|
| Carroll County |          |           |      |        |       |        |        |      |          |          |      |
| 146280         | 39 16 15 | 93 35 45  | 6    | 7.4    | 30    | 700    | 1.0    | 1.17 | 1.1      | .03      | .9   |
| 146493         | 39 33 43 | 93 25 15  | 6    | 9.6    | 30    | 700    | <1.0   | 1.40 | 1.4      | .05      | .5   |
| 146407         | 39 25 58 | 93 33 0   | 4    | 12.0   | 20    | 700    | <1.0   | 1.74 | 1.7      | .02      | .6   |
| 145930         | 39 31 30 | 93 29 45  | 4    | 8.0    | 30    | 700    | 1.0    | 1.30 | 1.3      | <.01     | .4   |
| 146506         | 39 23 45 | 93 29 45  | 6    | 11.0   | 20    | 700    | <1.0   | 1.61 | 1.6      | <.01     | .5   |
| 145656         | 39 30 14 | 93 39 28  | 5    | 7.2    | 30    | 700    | 1.5    | 1.16 | 1.2      | <.01     | .3   |
| 145812         | 39 34 58 | 93 18 57  | 5    | 11.0   | 30    | 1,000  | 1.0    | 1.69 | 1.7      | .03      | .5   |
| 145715         | 39 30 0  | 93 18 0   | 4    | 9.9    | 30    | 700    | <1.0   | 1.31 | 1.3      | .02      | .4   |
| 146538         | 39 27 0  | 93 45 28  | 6    | 13.0   | 30    | 700    | <1.0   | 1.17 | 1.2      | <.01     | .4   |
| 146341         | 39 21 28 | 93 20 45  | 5    | 12.0   | 30    | 700    | 1.0    | 1.82 | 1.8      | .03      | .5   |
| Carter County  |          |           |      |        |       |        |        |      |          |          |      |
| 145460         | 36 58 30 | 91 12 0   | 3    | 5.4    | 30    | 500    | 1.0    | 1.06 | 1.0      | .10      | .1   |
| 146348         | 37 4 30  | 91 2 31   | 3    | 8.9    | 30    | 700    | 1.0    | 1.82 | 1.7      | .16      | 1.4  |
| 146462         | 37 3 43  | 90 59 13  | 5    | 14.0   | 30    | 300    | 1.5    | 1.20 | 1.2      | .04      | .3   |
| 145982         | 37 3 0   | 90 48 0   | 3    | 6.9    | 30    | 700    | 1.0    | 1.02 | 1.0      | .05      | .2   |
| 146400         | 37 0 43  | 90 45 28  | 3    | 12.0   | <20   | 300    | 1.5    | 1.19 | 1.2      | .02      | .1   |
| 146229         | 36 55 1  | 91 11 45  | 2    | 5.7    | 30    | 150    | N      | .70  | .7       | <.01     | <.1  |
| 145901         | 36 53 31 | 91 1 15   | 3    | 7.1    | 30    | 300    | <1.0   | .71  | .7       | .03      | <.1  |
| 146273         | 36 52 30 | 90 56 13  | 3    | 19.0   | 30    | 700    | 1.5    | 1.39 | 1.3      | .06      | .3   |
| 146398         | 36 49 30 | 90 48 0   | 3    | 6.0    | 30    | 300    | N      | .62  | .6       | .02      | <.1  |
| 146435         | 36 54 0  | 90 46 15  | 3    | 13.0   | 30    | 300    | N      | 1.26 | 1.3      | <.01     | .1   |
| Cass County    |          |           |      |        |       |        |        |      |          |          |      |
| 145949         | 38 46 58 | 94 9 0    | 4    | 5.8    | 50    | 1,000  | 1.0    | 1.13 | 1.1      | .02      | .4   |
| 146247         | 38 46 58 | 94 22 58  | 5    | 9.7    | 30    | 1,000  | N      | 1.79 | 1.7      | .07      | .6   |
| 145439         | 38 43 1  | 94 33 0   | 7    | 11.0   | 20    | 700    | 1.5    | 2.08 | 2.0      | .13      | .7   |
| 145850         | 38 42 0  | 94 22 1   | 5    | 10.0   | 30    | 700    | 1.5    | 2.88 | 2.8      | .04      | .6   |
| 146209         | 38 34 58 | 94 16 1   | 4    | 14.0   | 30    | 700    | 1.0    | 1.52 | 1.5      | <.01     | .4   |
| 146162         | 38 33 0  | 94 34 1   | 4    | 11.0   | 30    | 500    | <1.0   | 1.16 | 1.1      | .03      | .4   |
| 146433         | 38 37 58 | 94 25 1   | 4    | 8.0    | 30    | 700    | 1.0    | 1.29 | 1.3      | .03      | .4   |
| 145846         | 38 31 1  | 94 27 0   | 5    | 11.0   | 50    | 700    | 1.5    | 1.92 | 1.9      | .01      | .4   |
| 146442         | 38 33 0  | 94 18 0   | 5    | 12.0   | 20    | 500    | 1.5    | 1.66 | 1.6      | .04      | .4   |
| 146358         | 38 28 1  | 94 9 0    | 6    | 11.0   | 30    | 700    | 1.5    | 2.07 | 2.1      | .03      | .8   |
| Cedar County   |          |           |      |        |       |        |        |      |          |          |      |
| 146228         | 37 46 58 | 94 0 43   | 3    | 5.5    | 30    | 150    | N      | .98  | 1.0      | .02      | .1   |
| 145605         | 37 46 30 | 93 50 13  | 4    | 12.0   | 30    | 700    | <1.0   | 1.39 | 1.4      | .03      | .2   |
| 146550         | 37 48 43 | 93 45 14  | 1    | 4.9    | 20    | 150    | N      | .66  | .6       | .01      | .1   |
| 146083         | 37 43 44 | 93 44 13  | 4    | 6.5    | 30    | 700    | 1.0    | 1.46 | 1.4      | .01      | .4   |
| 146306         | 37 42 0  | 93 46 44  | 3    | 9.0    | 50    | 700    | 1.0    | 3.36 | 3.4      | <.01     | .4   |
| 145878         | 37 40 30 | 94 1 58   | 4    | 8.7    | 30    | 200    | 1.0    | 2.89 | 2.9      | .02      | .2   |
| 146478         | 37 40 15 | 93 54 28  | 4    | 6.1    | 30    | 300    | <1.0   | 1.79 | 1.8      | .01      | .4   |
| 145442         | 37 39 28 | 93 49 1   | 3    | 6.3    | 20    | 500    | N      | 1.74 | 1.5      | .22      | .2   |
| 145577         | 37 38 13 | 93 39 28  | 5    | 5.9    | 30    | 200    | N      | .80  | .7       | .06      | .6   |
| 146456         | 37 35 45 | 93 37 58  | 3    | 13.0   | <20   | 500    | <1.0   | 2.10 | 2.1      | <.01     | .3   |

Table 3.--Locations and concentrations of frequently detected elements for agricultural soils of Missouri--continued

| Sample         | Ce ppm | Co ppm | Cr ppm | Cu ppm | F%   | Fe % | Ga ppm | Hg ppm | I ppm | K % | La ppm |
|----------------|--------|--------|--------|--------|------|------|--------|--------|-------|-----|--------|
| Carroll County |        |        |        |        |      |      |        |        |       |     |        |
| 146280         | 150    | 7      | 50     | 15     | .034 | 2.2  | 15     | .04    | --    | 2.1 | 50     |
| 146493         | <150   | 10     | 70     | 15     | .042 | 2.4  | 15     | .03    | --    | 1.6 | 30     |
| 146407         | <150   | 7      | 50     | 10     | .026 | 2.4  | 15     | .03    | --    | 1.6 | 70     |
| 145930         | <150   | 10     | 70     | 15     | .026 | 2.2  | 15     | .02    | 3.66  | 1.6 | 30     |
| 146506         | <150   | 10     | 50     | 15     | .040 | 2.4  | 15     | .01    | --    | 1.8 | 50     |
| 145656         | 150    | 7      | 70     | 15     | .160 | 2.1  | 10     | .05    | --    | 1.6 | 50     |
| 145812         | <150   | 15     | 70     | 20     | .030 | 2.8  | 15     | .04    | --    | 1.7 | 30     |
| 145715         | <150   | 10     | 50     | 10     | .027 | 2.0  | 7      | .05    | --    | 1.3 | 50     |
| 146538         | <150   | 15     | 70     | 15     | .059 | 2.9  | 20     | .01    | --    | 1.7 | 50     |
| 146341         | <150   | 10     | 70     | 15     | .028 | 2.4  | 15     | .06    | --    | 1.9 | 70     |
| Carter County  |        |        |        |        |      |      |        |        |       |     |        |
| 145460         | 150    | 7      | 50     | 10     | .010 | 1.3  | 7      | .05    | --    | .9  | 50     |
| 146348         | 150    | 10     | 70     | 30     | .014 | 1.9  | 10     | .23    | 4.65  | 1.3 | 50     |
| 146462         | 150    | 15     | 70     | 20     | .019 | 2.7  | 15     | .03    | --    | 1.5 | 50     |
| 145982         | 150    | 15     | 70     | 10     | .011 | 1.6  | 7      | .04    | --    | 1.1 | 50     |
| 146400         | 150    | 15     | 30     | 30     | .008 | 1.7  | 7      | .05    | --    | .7  | 50     |
| 146229         | 150    | 7      | 20     | 10     | .007 | 1.0  | <5     | .01    | --    | .3  | 30     |
| 145901         | <150   | 7      | 30     | 7      | .018 | 1.7  | 7      | .02    | --    | .9  | 30     |
| 146273         | 150    | 15     | 30     | 30     | .014 | 1.8  | 10     | .04    | --    | 1.2 | 70     |
| 146398         | <150   | 7      | 30     | 7      | .024 | 1.3  | 7      | .02    | --    | .9  | 30     |
| 146435         | <150   | 15     | 70     | 10     | .002 | 2.2  | 7      | .03    | --    | 1.0 | 30     |
| Cass County    |        |        |        |        |      |      |        |        |       |     |        |
| 145949         | <150   | 10     | 70     | 15     | .027 | 1.9  | 15     | .03    | --    | 1.8 | 70     |
| 146247         | <150   | 7      | 70     | 15     | .028 | 2.0  | 15     | .03    | --    | 1.7 | 50     |
| 145439         | 150    | 15     | 70     | 20     | .050 | 3.2  | 20     | .05    | --    | 1.5 | 70     |
| 145850         | <150   | 7      | 70     | 15     | .029 | 2.7  | 15     | .06    | --    | 1.7 | 70     |
| 146209         | 150    | 7      | 70     | 15     | .025 | 2.2  | 15     | .04    | --    | 1.4 | 70     |
| 146162         | 150    | 15     | 50     | 15     | .029 | 2.2  | 15     | .03    | --    | 1.0 | 50     |
| 146433         | <150   | 7      | 50     | 15     | .002 | 1.8  | 10     | .03    | --    | 1.2 | 30     |
| 145846         | <150   | 10     | 70     | 15     | .030 | 2.8  | 15     | .03    | 6.48  | 1.8 | 70     |
| 146442         | <150   | 15     | 70     | 20     | .040 | 2.9  | 15     | .05    | --    | 1.2 | 50     |
| 146358         | 150    | 15     | 100    | 30     | .035 | 3.3  | 20     | .02    | --    | 1.9 | 70     |
| Cedar County   |        |        |        |        |      |      |        |        |       |     |        |
| 146228         | <150   | 3      | 50     | 7      | .013 | 1.3  | 7      | .01    | --    | .5  | 30     |
| 145605         | <150   | 10     | 70     | 10     | .075 | 2.3  | 10     | .02    | --    | 1.0 | 50     |
| 146550         | <150   | 7      | 50     | 5      | .001 | 1.0  | <5     | <.01   | --    | .3  | 30     |
| 146083         | <150   | 10     | 70     | 15     | .021 | 2.0  | 15     | .04    | --    | 1.7 | 70     |
| 146306         | 150    | 15     | 70     | 20     | .014 | 2.9  | 15     | .11    | --    | 1.2 | 70     |
| 145878         | <150   | 10     | 70     | 10     | .014 | 2.4  | 10     | .14    | 3.91  | .8  | 30     |
| 146478         | <150   | 7      | 70     | 15     | .015 | 1.6  | 10     | .03    | --    | 1.2 | 30     |
| 145442         | <150   | 7      | 70     | 10     | .014 | 1.6  | 7      | .05    | --    | 1.2 | 30     |
| 145577         | <150   | 7      | 100    | 7      | .076 | 2.5  | <5     | .03    | --    | 2.0 | 30     |
| 146456         | 150    | 20     | 70     | 15     | .020 | 3.8  | 15     | .04    | --    | 1.2 | 50     |

Table 3.--Locations and concentrations of frequently detected elements for agricultural soils of Missouri--continued

| Sample         | Li ppm | Mg % | Mn ppm | Na % | Nb ppm | Nd ppm | Ni ppm | P % | Pb ppm | Sc ppm | Se ppm |
|----------------|--------|------|--------|------|--------|--------|--------|-----|--------|--------|--------|
| Carroll County |        |      |        |      |        |        |        |     |        |        |        |
| 146280         | 27     | .53  | 500    | .93  | <10    | 70     | 15     | .09 | 15     | 10     | .3     |
| 146493         | 28     | .44  | 500    | .68  | <10    | <70    | 20     | .04 | 20     | 10     | .8     |
| 146407         | 23     | .36  | 700    | .08  | <10    | 70     | 10     | .04 | 15     | 7      | .9     |
| 145930         | 26     | .34  | 700    | .65  | 10     | 70     | 15     | .09 | 15     | 10     | <.1    |
| 146506         | 25     | .40  | 700    | .68  | <10    | 70     | 15     | .09 | 15     | 7      | .6     |
| 145656         | 26     | .30  | 700    | .70  | 10     | 70     | 20     | .06 | 20     | 7      | .7     |
| 145812         | 24     | .45  | 1,000  | .77  | <10    | 70     | 20     | .07 | 20     | 10     | .4     |
| 145715         | 20     | .30  | 700    | .61  | <10    | <70    | 15     | .04 | 15     | 7      | .6     |
| 146538         | 28     | .52  | 700    | .59  | <10    | 70     | 20     | .04 | 20     | 10     | 1.0    |
| 146341         | 25     | .40  | 700    | .74  | <10    | 70     | 30     | .04 | 20     | 10     | .3     |
| Carter County  |        |      |        |      |        |        |        |     |        |        |        |
| 145460         | 19     | .17  | 1,500  | .18  | <10    | 70     | 15     | .07 | 15     | 7      | .3     |
| 146348         | 22     | .21  | 1,500  | .26  | <10    | 70     | 15     | .22 | 50     | 7      | <.1    |
| 146462         | 32     | .32  | 1,500  | .27  | <10    | 70     | 20     | .04 | 30     | 10     | .4     |
| 145982         | 18     | .19  | 1,000  | .22  | 10     | 70     | 15     | .04 | 20     | 7      | <.1    |
| 146400         | 24     | .14  | 1,500  | .13  | <10    | 100    | 20     | .04 | 20     | 7      | .6     |
| 146229         | 12     | .10  | 1,500  | .08  | <10    | <70    | 10     | .09 | 15     | <5     | .2     |
| 145901         | 21     | .14  | 500    | .18  | 15     | <70    | 7      | .04 | 15     | 7      | .2     |
| 146273         | 24     | .25  | 1,500  | .29  | 10     | 70     | 15     | .09 | 20     | 7      | .1     |
| 146398         | 19     | .13  | 300    | .20  | <10    | <70    | 7      | .02 | 15     | 7      | .4     |
| 146435         | 21     | .17  | 1,500  | .21  | <10    | <70    | 15     | .04 | 20     | 7      | .7     |
| Cass County    |        |      |        |      |        |        |        |     |        |        |        |
| 145949         | 23     | .38  | 1,000  | .76  | 10     | 70     | 30     | .09 | 20     | 10     | .1     |
| 146247         | 21     | .32  | 500    | .80  | <10    | 70     | 15     | .04 | 20     | 7      | .5     |
| 145439         | 40     | .51  | 500    | .53  | <10    | 70     | 30     | .07 | 20     | 15     | .4     |
| 145850         | 21     | .39  | 700    | .68  | <10    | 70     | 20     | .06 | 30     | 10     | .2     |
| 146209         | 19     | .24  | 500    | .84  | <10    | 70     | 10     | .04 | 15     | 7      | 2.0    |
| 146162         | 26     | .27  | 1,000  | .56  | 10     | 70     | 15     | .04 | 20     | 10     | .3     |
| 146433         | 21     | .24  | 500    | .60  | <10    | 70     | 10     | .04 | 20     | 7      | .7     |
| 145846         | 29     | .38  | 1,000  | .56  | <10    | 70     | 30     | .06 | 20     | 10     | .4     |
| 146442         | 29     | .40  | 1,500  | .38  | <10    | <70    | 30     | .04 | 30     | 10     | 1.0    |
| 146358         | 41     | .53  | 1,000  | .56  | <10    | 70     | 30     | .13 | 20     | 15     | .4     |
| Cedar County   |        |      |        |      |        |        |        |     |        |        |        |
| 146228         | 15     | .12  | 300    | .19  | <10    | <70    | 7      | .09 | 15     | 5      | .2     |
| 145605         | 21     | .18  | 700    | .44  | <10    | <70    | 7      | .05 | 20     | 7      | .5     |
| 146550         | 10     | .06  | 150    | .07  | <10    | N      | 7      | .09 | 15     | <5     | .3     |
| 146083         | 27     | .26  | 1,000  | .41  | 10     | 70     | 20     | .04 | 20     | 10     | <.1    |
| 146306         | 22     | .21  | 1,500  | .30  | 10     | 70     | 20     | .09 | 30     | 7      | .5     |
| 145878         | 24     | .16  | 1,000  | .19  | <10    | <70    | 20     | .05 | 30     | 7      | .2     |
| 146478         | 25     | .19  | 700    | .34  | <10    | <70    | 15     | .09 | 15     | 7      | .3     |
| 145442         | 21     | .14  | 1,000  | .36  | <10    | 70     | 7      | .06 | 20     | 5      | .4     |
| 145577         | 11     | .08  | 300    | .14  | <10    | <70    | 5      | .09 | 15     | <5     | .3     |
| 146456         | 23     | .21  | 1,500  | .27  | <10    | 70     | 30     | .09 | 30     | 7      | .8     |

Table 3.--Locations and concentrations of frequently detected elements for agricultural soils of Missouri--continued

| Sample         | Si % | Sr ppm | Th ppm | Ti % | U ppm | V ppm | Y ppm | Yb ppm | Zn ppm | Zr ppm |
|----------------|------|--------|--------|------|-------|-------|-------|--------|--------|--------|
| Carroll County |      |        |        |      |       |       |       |        |        |        |
| 146280         | 32   | 300    | --     | .30  | --    | 100   | 30    | 3.0    | 76     | 200    |
| 146493         | 32   | 150    | --     | .30  | --    | 70    | 30    | 3.0    | 85     | 200    |
| 146407         | 33   | 150    | --     | .30  | --    | 70    | 30    | 3.0    | 55     | 150    |
| 145930         | 33   | 150    | 11.02  | .30  | 3.79  | 100   | 30    | 3.0    | 52     | 300    |
| 146506         | 34   | 150    | 13.61  | .30  | 4.20  | 70    | 30    | 3.0    | 54     | 300    |
| 145656         | 36   | 150    | --     | .30  | --    | 70    | 30    | 3.0    | 56     | 300    |
| 145812         | 34   | 200    | --     | .50  | --    | 100   | 30    | 3.0    | 62     | 500    |
| 145715         | 36   | 100    | --     | .30  | --    | 70    | 30    | 3.0    | 58     | 300    |
| 146538         | 33   | 150    | --     | .30  | --    | 100   | 30    | 3.0    | 85     | 300    |
| 146341         | 33   | 200    | --     | .30  | --    | 100   | 30    | 3.0    | 66     | 300    |
| Carter County  |      |        |        |      |       |       |       |        |        |        |
| 145460         | 38   | 50     | --     | .50  | --    | 30    | 30    | 3.0    | 42     | 500    |
| 146348         | 37   | 150    | --     | .30  | --    | 70    | 50    | 3.0    | 145    | 300    |
| 146462         | 35   | 70     | --     | .50  | --    | 100   | 30    | 3.0    | 63     | 500    |
| 145982         | 33   | 70     | --     | .30  | --    | 70    | 30    | 3.0    | 32     | 300    |
| 146400         | 37   | 30     | 6.59   | .20  | 4.75  | 50    | 70    | 3.0    | 64     | 150    |
| 146229         | 42   | 30     | 4.20   | .20  | 2.20  | 30    | 30    | 3.0    | 34     | 150    |
| 145901         | 36   | 50     | --     | .50  | --    | 50    | 30    | 3.0    | 29     | 500    |
| 146273         | 37   | 70     | --     | .30  | --    | 70    | 50    | 5.0    | 65     | 300    |
| 146398         | 39   | 70     | --     | .30  | --    | 50    | 30    | 3.0    | 40     | 200    |
| 146435         | 39   | 70     | --     | .30  | --    | 70    | 30    | 3.0    | 33     | 500    |
| Cass County    |      |        |        |      |       |       |       |        |        |        |
| 145949         | 34   | 150    | --     | .50  | --    | 70    | 50    | 5.0    | 69     | 500    |
| 146247         | 34   | 300    | --     | .30  | --    | 100   | 30    | 5.0    | 44     | 200    |
| 145439         | 30   | 150    | 8.68   | .50  | 4.90  | 150   | 50    | 3.0    | 67     | 300    |
| 145850         | 33   | 200    | --     | .30  | --    | 70    | 50    | 5.0    | 133    | 300    |
| 146209         | 36   | 150    | 11.69  | .30  | 4.83  | 70    | 30    | 3.0    | 40     | 300    |
| 146162         | 27   | 150    | --     | .30  | --    | 70    | 50    | 3.0    | 41     | 700    |
| 146433         | 36   | 150    | --     | .30  | --    | 70    | 30    | 5.0    | 38     | 500    |
| 145846         | 34   | 150    | --     | .30  | --    | 70    | 30    | 3.0    | 62     | 300    |
| 146442         | 32   | 70     | --     | .30  | --    | 100   | 30    | 3.0    | 62     | 300    |
| 146358         | 29   | 300    | --     | .30  | --    | 150   | 50    | 3.0    | 108    | 150    |
| Cedar County   |      |        |        |      |       |       |       |        |        |        |
| 146228         | 40   | 30     | --     | .30  | --    | 50    | 20    | 3.0    | 25     | 500    |
| 145605         | 37   | 70     | --     | .50  | --    | 70    | 30    | 3.0    | 30     | 300    |
| 146550         | 43   | 30     | 7.88   | .20  | 1.91  | 20    | 20    | 2.0    | 18     | 300    |
| 146083         | 35   | 100    | --     | .50  | --    | 70    | 50    | 5.0    | 57     | 300    |
| 146306         | 35   | 150    | --     | .30  | --    | 100   | 70    | 7.0    | 135    | 300    |
| 145878         | 38   | 100    | --     | .30  | --    | 50    | 30    | 3.0    | 82     | 300    |
| 146478         | 38   | 70     | --     | .30  | --    | 50    | 30    | 3.0    | 86     | 300    |
| 145442         | 39   | 70     | 8.47   | .30  | 3.83  | 30    | 30    | 3.0    | 34     | 300    |
| 145577         | 35   | 30     | --     | .30  | --    | 30    | 30    | 3.0    | 23     | 500    |
| 146456         | 34   | 70     | --     | .30  | --    | 70    | 70    | 5.0    | 52     | 500    |

Table 3.--Locations and concentrations of frequently detected elements for agricultural soils of Missouri--continued

| Sample           | Latitude | Longitude | Al % | As ppm | B ppm | Ba ppm | Be ppm | C %  | C org. % | C crb. % | Ca % |
|------------------|----------|-----------|------|--------|-------|--------|--------|------|----------|----------|------|
| Chariton County  |          |           |      |        |       |        |        |      |          |          |      |
| 145734           | 39 31 58 | 93 15 14  | 7    | 12.0   | 30    | 700    | 1.5    | 1.99 | 1.9      | .06      | .7   |
| 145754           | 39 35 45 | 93 5 45   | 5    | 13.0   | 30    | 700    | 1.0    | 2.52 | 2.5      | .01      | .4   |
| 145869           | 39 39 0  | 93 6 57   | 5    | 11.0   | 30    | 700    | 1.0    | 2.24 | 2.2      | .03      | .6   |
| 146470           | 39 40 58 | 92 55 44  | 5    | 8.1    | <20   | 300    | <1.0   | 1.32 | 1.3      | .02      | .4   |
| 145430           | 39 41 13 | 92 43 58  | 5    | 8.2    | 20    | 300    | <1.0   | .68  | .4       | .13      | .3   |
| 146285           | 39 33 28 | 92 55 15  | 6    | 8.9    | 30    | 700    | 1.0    | 1.52 | 1.5      | .02      | .4   |
| 146270           | 39 33 0  | 92 48 28  | 7    | 11.0   | 30    | 700    | 1.5    | 1.84 | 1.8      | .03      | .4   |
| 146087           | 39 16 58 | 92 52 58  | 6    | 9.6    | 30    | 1,000  | 1.0    | 2.98 | 3.0      | <.01     | .8   |
| 146495           | 39 21 43 | 92 55 30  | 6    | 13.0   | 30    | 1,000  | <1.0   | .56  | .5       | .02      | .7   |
| 145711           | 39 23 45 | 93 4 44   | 7    | 8.6    | 30    | 700    | 1.5    | 1.58 | 1.5      | .04      | .7   |
| Christian County |          |           |      |        |       |        |        |      |          |          |      |
| 146592           | 36 58 58 | 93 7 58   | 3    | 7.6    | 30    | 700    | 1.0    | 1.39 | 1.3      | .05      | .2   |
| 145704           | 37 4 58  | 93 15 0   | 2    | 5.8    | 30    | 700    | N      | 1.36 | 1.3      | .04      | .2   |
| 146108           | 37 1 58  | 93 22 1   | 3    | 7.5    | 50    | 700    | 1.5    | 1.61 | 1.6      | .06      | .4   |
| 145592           | 37 3 0   | 93 27 0   | 3    | 8.6    | 30    | 700    | 1.5    | .85  | .7       | .12      | .2   |
| 145729           | 37 4 1   | 93 36 0   | 3    | 6.4    | 30    | 700    | <1.0   | .81  | .8       | .06      | .1   |
| 145810           | 36 58 58 | 93 18 0   | 3    | 7.5    | 70    | 500    | <1.0   | 1.12 | 1.1      | .02      | .2   |
| 145895           | 36 54 0  | 93 18 57  | 3    | 6.3    | 30    | 700    | 1.0    | .95  | .9       | <.01     | 1.2  |
| 145939           | 36 55 1  | 93 15 57  | 3    | 6.7    | 30    | 700    | 1.0    | 1.45 | 1.4      | .03      | .3   |
| 145424           | 36 55 58 | 93 10 58  | 3    | 5.4    | 20    | 300    | <1.0   | 1.51 | 1.4      | .08      | .1   |
| 146211           | 36 52 1  | 93 9 0    | 4    | 7.6    | 30    | 700    | N      | 1.07 | 1.0      | .06      | .5   |
| Clark County     |          |           |      |        |       |        |        |      |          |          |      |
| 145478           | 40 29 31 | 91 42 28  | 5    | 13.0   | 30    | 700    | <1.0   | 2.03 | 2.0      | .04      | .4   |
| 145793           | 40 25 30 | 91 55 1   | 6    | 16.0   | 30    | 700    | 1.0    | 1.47 | 1.4      | .06      | .5   |
| 145531           | 40 32 31 | 91 55 1   | 5    | 5.7    | 50    | 700    | 1.0    | 1.65 | 1.6      | .09      | .5   |
| 145683           | 40 25 1  | 91 40 30  | 5    | 7.1    | 30    | 500    | 1.0    | 1.59 | 1.6      | .04      | .4   |
| 145766           | 40 25 1  | 91 34 58  | 4    | 7.5    | 30    | 700    | N      | 1.89 | 1.9      | .02      | .5   |
| 145926           | 40 20 31 | 91 43 30  | 5    | 13.0   | 30    | 700    | 1.0    | 1.92 | 1.9      | .02      | .4   |
| 145445           | 40 19 44 | 91 50 45  | 5    | 14.0   | 20    | 700    | 1.5    | 2.03 | 2.0      | .08      | .6   |
| 145783           | 40 25 58 | 91 52 1   | 4    | 8.4    | 30    | 700    | 1.0    | 2.08 | 2.0      | .03      | .8   |
| 145680           | 40 31 30 | 91 49 44  | 4    | 6.7    | 30    | 700    | 1.0    | 1.66 | 1.5      | .20      | .5   |
| 145487           | 40 35 31 | 91 48 0   | 5    | 15.0   | 30    | 700    | 1.0    | 2.24 | 2.2      | .08      | .5   |
| Clay County      |          |           |      |        |       |        |        |      |          |          |      |
| 146007           | 39 19 58 | 94 30 0   | 5    | 11.0   | 30    | 1,000  | 1.0    | 1.94 | 1.9      | .01      | .6   |
| 146564           | 39 18 0  | 94 33 14  | 6    | 11.0   | 30    | 1,000  | 1.5    | 2.30 | 2.3      | .02      | .7   |
| 145727           | 39 15 14 | 94 23 31  | 5    | 8.5    | 30    | 1,000  | <1.0   | 1.16 | 1.1      | .02      | .4   |
| 146164           | 39 15 28 | 94 19 58  | 5    | 8.4    | 30    | 700    | <1.0   | 1.30 | 1.2      | .09      | 1.2  |
| 146188           | 39 15 46 | 94 16 30  | 5    | 9.2    | 30    | 700    | 1.0    | 1.62 | 1.6      | <.01     | .9   |
| 145993           | 39 23 45 | 94 17 31  | 5    | 12.0   | 30    | 700    | 1.0    | 2.08 | 2.1      | .02      | .6   |
| 145957           | 39 20 31 | 94 20 31  | 5    | 9.9    | 30    | 1,000  | 1.5    | 2.57 | 2.5      | .07      | .6   |
| 146446           | 39 25 1  | 94 23 31  | 3    | 6.9    | 30    | 500    | N      | .78  | .7       | .04      | .5   |
| 146222           | 39 25 1  | 94 33 0   | 5    | 9.6    | 30    | 700    | 1.0    | 1.93 | 1.9      | .03      | .4   |
| 146130           | 39 13 44 | 94 31 1   | 6    | 10.0   | 30    | 700    | 1.0    | 1.01 | 1.0      | <.01     | .4   |



Table 3.--Locations and concentrations of frequently detected elements for agricultural soils of Missouri--continued

| Sample           | Ce ppm | Co ppm | Cr ppm | Cu ppm | F%   | Fe % | Ga ppm | Hg ppm | I ppm | K % | La ppm |
|------------------|--------|--------|--------|--------|------|------|--------|--------|-------|-----|--------|
| Chariton County  |        |        |        |        |      |      |        |        |       |     |        |
| 145734           | 150    | 15     | 70     | 15     | .046 | 3.7  | 15     | .05    | --    | 1.9 | 70     |
| 145754           | 150    | 10     | 70     | 15     | .026 | 2.6  | 15     | .03    | 5.30  | 1.7 | 70     |
| 145869           | <150   | 10     | 70     | 10     | .025 | 2.3  | 15     | .04    | --    | 1.6 | 30     |
| 146470           | <150   | 7      | 30     | 10     | .023 | 2.1  | 15     | .02    | --    | 1.1 | 30     |
| 145430           | <150   | 7      | 30     | 10     | .026 | 2.1  | 15     | .04    | --    | 1.1 | 30     |
| 146285           | 150    | 7      | 70     | 20     | .026 | 2.5  | 15     | .03    | --    | 1.5 | 70     |
| 146270           | 150    | 10     | 70     | 50     | .040 | 3.1  | 20     | .04    | --    | 1.5 | 70     |
| 146087           | <150   | 10     | 70     | 30     | .048 | 2.7  | 20     | .04    | --    | 2.2 | 30     |
| 146495           | 150    | 15     | 70     | 15     | .045 | 2.8  | 15     | .03    | --    | 2.0 | 70     |
| 145711           | 150    | 10     | 70     | 30     | .025 | 3.4  | 15     | .04    | --    | 2.2 | 70     |
| Christian County |        |        |        |        |      |      |        |        |       |     |        |
| 146592           | 150    | 15     | 50     | 10     | .019 | 1.8  | 10     | .38    | --    | 1.2 | 70     |
| 145704           | 150    | 15     | 50     | 10     | .019 | 1.5  | 7      | .10    | --    | 1.2 | 50     |
| 146108           | 150    | 15     | 50     | 15     | .013 | 1.3  | 10     | .04    | --    | 1.4 | 70     |
| 145592           | 150    | 15     | 70     | 10     | .094 | 2.0  | 10     | .02    | --    | 1.2 | 50     |
| 145729           | <150   | 15     | 30     | 7      | .015 | 1.7  | 5      | .02    | --    | 1.2 | 30     |
| 145810           | <150   | 15     | 30     | 15     | .013 | 2.2  | 7      | .03    | --    | 1.2 | 30     |
| 145895           | 150    | 15     | 50     | 10     | .018 | 1.6  | 7      | .03    | --    | 1.4 | 70     |
| 145939           | <150   | 10     | 50     | 15     | .013 | 1.6  | 7      | .03    | 6.17  | 1.5 | 70     |
| 145424           | 150    | 10     | 30     | 10     | .170 | 1.3  | 7      | .06    | --    | 1.2 | 50     |
| 146211           | 150    | 15     | 50     | 20     | .021 | 1.6  | 10     | .04    | --    | 1.8 | 50     |
| Clark County     |        |        |        |        |      |      |        |        |       |     |        |
| 145478           | 150    | 10     | 70     | 15     | .026 | 2.4  | 15     | .06    | --    | 1.5 | 50     |
| 145793           | <150   | 15     | 70     | 50     | .034 | 3.4  | 15     | .04    | 3.52  | 1.7 | 50     |
| 145531           | 150    | 5      | 50     | 15     | .140 | 1.7  | 15     | .03    | --    | 1.6 | 50     |
| 145683           | <150   | 7      | 70     | 15     | .020 | 2.2  | 15     | .06    | --    | 1.2 | 30     |
| 145766           | <150   | 7      | 70     | 15     | .019 | 2.0  | 10     | .02    | --    | 1.5 | 30     |
| 145926           | <150   | 15     | 70     | 15     | .028 | 2.6  | 15     | .04    | --    | 1.7 | 50     |
| 145445           | 150    | 10     | 70     | 20     | .034 | 2.7  | 15     | .05    | --    | 1.6 | 30     |
| 145783           | <150   | 7      | 50     | 15     | .022 | 2.0  | 15     | .03    | --    | 1.7 | 50     |
| 145680           | <150   | 7      | 70     | 10     | .020 | 2.0  | 10     | .05    | --    | 1.7 | 30     |
| 145487           | 150    | 15     | 70     | 15     | .027 | 2.6  | 15     | .06    | --    | 1.6 | 50     |
| Clay County      |        |        |        |        |      |      |        |        |       |     |        |
| 146007           | 150    | 10     | 70     | 15     | .036 | 2.9  | 15     | .04    | 6.02  | 2.0 | 50     |
| 146564           | 150    | 10     | 70     | 15     | .039 | 2.4  | 15     | .02    | --    | 1.9 | 30     |
| 145727           | <150   | 10     | 50     | 15     | .023 | 2.0  | 10     | .05    | --    | 2.0 | 50     |
| 146164           | <150   | 10     | 30     | 15     | .043 | 2.2  | 15     | .04    | --    | 2.1 | 30     |
| 146188           | 150    | 10     | 70     | 20     | .052 | 2.4  | 15     | .07    | --    | 1.7 | 30     |
| 145993           | 150    | 15     | 70     | 20     | .036 | 2.9  | 15     | .07    | --    | 1.8 | 50     |
| 145957           | <150   | 15     | 70     | 20     | .030 | 2.5  | 15     | .04    | --    | 1.9 | 50     |
| 146446           | <150   | 7      | 30     | 7      | .004 | 1.3  | 7      | .01    | --    | 1.4 | 30     |
| 146222           | 150    | 15     | 70     | 20     | .030 | 2.4  | 15     | .03    | --    | 1.7 | 70     |
| 146130           | 150    | 7      | 70     | 20     | .036 | 2.8  | 20     | .04    | --    | 1.5 | 30     |



Table 3.--Locations and concentrations of frequently detected elements for agricultural soils of Missouri--continued

| Sample           | Li ppm | Mg % | Mn ppm | Na % | Nb ppm | Nd ppm | Ni ppm | P % | Pb ppm | Sc ppm | Se ppm |
|------------------|--------|------|--------|------|--------|--------|--------|-----|--------|--------|--------|
| Chariton County  |        |      |        |      |        |        |        |     |        |        |        |
| 145734           | 42     | .63  | 500    | .49  | <10    | 70     | 30     | .10 | 15     | 15     | 1.7    |
| 145754           | 25     | .42  | 1,000  | .69  | <10    | 70     | 20     | .11 | 20     | 7      | 1.0    |
| 145869           | 21     | .32  | 700    | .80  | 15     | 70     | 10     | .06 | 20     | 7      | .5     |
| 146470           | 28     | .28  | 200    | .56  | <10    | <70    | 15     | .04 | 15     | 7      | .6     |
| 145430           | 21     | .24  | 300    | .47  | <10    | <70    | 15     | .03 | 15     | 7      | .5     |
| 146285           | 35     | .39  | 300    | .65  | <10    | 70     | 15     | .09 | 15     | 15     | .6     |
| 146270           | 45     | .45  | 700    | .53  | 10     | 70     | 15     | .09 | 20     | 15     | .5     |
| 146087           | 35     | .65  | 1,000  | .59  | <10    | 70     | 20     | .09 | 20     | 15     | .3     |
| 146495           | 24     | .57  | 1,000  | .90  | <10    | 70     | 20     | .09 | 15     | 10     | .4     |
| 145711           | 38     | .83  | 500    | .60  | <10    | 70     | 30     | .09 | 15     | 15     | .9     |
| Christian County |        |      |        |      |        |        |        |     |        |        |        |
| 146592           | 24     | .14  | 1,500  | .26  | <10    | 70     | 15     | .04 | 30     | 7      | .7     |
| 145704           | 21     | .14  | 1,500  | .25  | 10     | 70     | 10     | .08 | 30     | 7      | .4     |
| 146108           | 20     | .15  | 1,500  | .31  | 10     | 70     | 10     | .09 | 20     | 7      | <.1    |
| 145592           | 22     | .17  | 1,500  | .25  | 10     | 70     | 10     | .04 | 30     | 7      | .7     |
| 145729           | 19     | .14  | 1,500  | .30  | <10    | 70     | 10     | .03 | 20     | 7      | .4     |
| 145810           | 20     | .14  | 1,500  | .24  | 15     | <70    | 10     | .06 | 15     | 7      | .3     |
| 145895           | 19     | .12  | 1,500  | .28  | 10     | 70     | 10     | .04 | 20     | 7      | <.1    |
| 145939           | 20     | .14  | 1,500  | .33  | 10     | 70     | 20     | .09 | 20     | 7      | <.1    |
| 145424           | 18     | .12  | 1,000  | .28  | <10    | 70     | 7      | .05 | 15     | 5      | .4     |
| 146211           | 20     | .14  | 1,500  | .24  | 10     | 70     | 10     | .17 | 30     | 7      | .2     |
| Clark County     |        |      |        |      |        |        |        |     |        |        |        |
| 145478           | 23     | .33  | 700    | .66  | <10    | 70     | 15     | .06 | 30     | 7      | .5     |
| 145793           | 29     | .52  | 1,500  | .68  | <10    | 70     | 20     | .04 | 30     | 15     | 1.0    |
| 145531           | 23     | .28  | 500    | .70  | 10     | 70     | 15     | .07 | 15     | 10     | .5     |
| 145683           | 26     | .32  | 300    | .53  | <10    | <70    | 15     | .06 | 20     | 10     | .5     |
| 145766           | 19     | .28  | 700    | .62  | <10    | 70     | 15     | .11 | 15     | 7      | .6     |
| 145926           | 24     | .40  | 1,500  | .76  | <10    | <70    | 15     | .09 | 30     | 7      | .3     |
| 145445           | 27     | .44  | 700    | .65  | <10    | <70    | 15     | .08 | 20     | 10     | .6     |
| 145783           | 22     | .34  | 500    | .80  | 10     | 70     | 15     | .04 | 30     | 7      | .6     |
| 145680           | 22     | .31  | 700    | .83  | <10    | <70    | 15     | .07 | 15     | 7      | .7     |
| 145487           | 26     | .36  | 1,500  | .68  | <10    | 70     | 15     | .07 | 30     | 10     | .7     |
| Clay County      |        |      |        |      |        |        |        |     |        |        |        |
| 146007           | 26     | .51  | 700    | .73  | <10    | 70     | 20     | .09 | 15     | 10     | <.1    |
| 146564           | 24     | .46  | 500    | .65  | <10    | 70     | 15     | .09 | 15     | 7      | .6     |
| 145727           | 19     | .37  | 700    | .85  | <10    | 70     | 15     | .06 | 15     | 7      | .5     |
| 146164           | 25     | .66  | 300    | .99  | <10    | 70     | 15     | .09 | 20     | 10     | <.1    |
| 146188           | 42     | .83  | 300    | .75  | <10    | 70     | 30     | .09 | 15     | 15     | .6     |
| 145993           | 25     | .54  | 1,000  | .74  | <10    | 70     | 15     | .09 | 20     | 10     | .1     |
| 145957           | 23     | .43  | 700    | .73  | <10    | 70     | 20     | .09 | 20     | 10     | <.1    |
| 146446           | 13     | .16  | 300    | .73  | <10    | <70    | 10     | .09 | 15     | 5      | .3     |
| 146222           | 24     | .41  | 700    | .65  | 10     | 70     | 20     | .04 | 20     | 10     | .3     |
| 146130           | 32     | .40  | 700    | .56  | <10    | 70     | 20     | .09 | 20     | 10     | <.1    |

Table 3.--Locations and concentrations of frequently detected elements for agricultural soils of Missouri--continued

| Sample           | Si % | Sr ppm | Th ppm | Ti % | U ppm | V ppm | Y ppm | Yb ppm | Zn ppm | Zr ppm |
|------------------|------|--------|--------|------|-------|-------|-------|--------|--------|--------|
| Chariton County  |      |        |        |      |       |       |       |        |        |        |
| 145734           | 32   | 150    | --     | .30  | --    | 150   | 50    | 3.0    | 103    | 100    |
| 145754           | 33   | 150    | --     | .30  | --    | 70    | 30    | 3.0    | 71     | 300    |
| 145869           | 34   | 200    | --     | .30  | --    | 100   | 30    | 3.0    | 53     | 300    |
| 146470           | 38   | 100    | --     | .30  | 2.78  | 70    | 20    | 3.0    | 38     | 200    |
| 145430           | 36   | 100    | --     | .30  | --    | 70    | 30    | 2.0    | 34     | 500    |
| 146285           | 30   | 150    | --     | .50  | --    | 100   | 30    | 3.0    | 58     | 300    |
| 146270           | 31   | 150    | --     | .50  | --    | 150   | 70    | 7.0    | 78     | 200    |
| 146087           | 30   | 300    | --     | .30  | --    | 150   | 30    | 3.0    | 100    | 150    |
| 146495           | 34   | 300    | --     | .30  | --    | 150   | 30    | 3.0    | 74     | 300    |
| 145711           | 30   | 200    | 12.79  | .30  | 3.31  | 150   | 30    | 3.0    | 114    | 150    |
| Christian County |      |        |        |      |       |       |       |        |        |        |
| 146592           | 38   | 70     | --     | .30  | --    | 70    | 70    | 7.0    | 44     | 300    |
| 145704           | 38   | 70     | --     | .50  | --    | 50    | 30    | 5.0    | 51     | 500    |
| 146108           | 38   | 70     | --     | .50  | --    | 50    | 50    | 5.0    | 40     | 200    |
| 145592           | 38   | 70     | --     | .50  | --    | 70    | 30    | 3.0    | 30     | 500    |
| 145729           | 39   | 70     | 8.28   | .50  | 4.11  | 50    | 30    | 3.0    | 29     | 500    |
| 145810           | 39   | 50     | --     | .50  | --    | 30    | 30    | 3.0    | 39     | 700    |
| 145895           | 37   | 70     | --     | .30  | --    | 50    | 50    | 5.0    | 38     | 500    |
| 145939           | 36   | 100    | 12.38  | .50  | 3.98  | 30    | 50    | 5.0    | 36     | 500    |
| 145424           | 38   | 70     | --     | .50  | --    | 30    | 30    | 3.0    | 40     | 300    |
| 146211           | 37   | 70     | --     | .50  | --    | 70    | 30    | 3.0    | 43     | 300    |
| Clark County     |      |        |        |      |       |       |       |        |        |        |
| 145478           | 34   | 150    | --     | .30  | --    | 70    | 30    | 3.0    | 57     | 300    |
| 145793           | 33   | 150    | --     | .30  | --    | 150   | 30    | 3.0    | 70     | 300    |
| 145531           | 31   | 150    | --     | .50  | --    | 100   | 50    | 3.0    | 51     | 300    |
| 145683           | 34   | 150    | --     | .30  | --    | 70    | 30    | 3.0    | 48     | 500    |
| 145766           | 36   | 150    | 9.31   | .30  | 2.72  | 70    | 30    | 3.0    | 57     | 200    |
| 145926           | 32   | 150    | --     | .50  | --    | 100   | 30    | 3.0    | 54     | 200    |
| 145445           | 33   | 150    | --     | .50  | --    | 100   | 30    | 3.0    | 60     | 300    |
| 145783           | 35   | 150    | 10.28  | .50  | 3.72  | 70    | 30    | 3.0    | 63     | 300    |
| 145680           | 35   | 150    | --     | .30  | --    | 70    | 30    | 3.0    | 53     | 300    |
| 145487           | 32   | 150    | --     | .30  | --    | 100   | 30    | 3.0    | 62     | 300    |
| Clay County      |      |        |        |      |       |       |       |        |        |        |
| 146007           | 31   | 200    | --     | .30  | --    | 100   | 30    | 3.0    | 70     | 200    |
| 146564           | 32   | 150    | 10.53  | .30  | 4.70  | 70    | 30    | 3.0    | 69     | 300    |
| 145727           | 35   | 150    | --     | .30  | --    | 70    | 30    | 3.0    | 64     | 300    |
| 146164           | 33   | 300    | --     | .30  | --    | 70    | 30    | 3.0    | 100    | 300    |
| 146188           | 34   | 200    | --     | .30  | 4.24  | 150   | 30    | 3.0    | 103    | 150    |
| 145993           | 31   | 150    | --     | .30  | --    | 100   | 30    | 3.0    | 68     | 300    |
| 145957           | 31   | 200    | --     | .30  | --    | 100   | 30    | 3.0    | 65     | 500    |
| 146446           | 38   | 100    | --     | .20  | --    | 30    | 15    | 2.0    | 33     | 500    |
| 146222           | 33   | 150    | --     | .30  | --    | 150   | 50    | 5.0    | 56     | 300    |
| 146130           | 32   | 150    | --     | .30  | --    | 150   | 30    | 3.0    | 53     | 200    |

Table 3.--Locations and concentrations of frequently detected elements for agricultural soils of Missouri--continued

| Sample          | Latitude | Longitude | Al % | As ppm | B ppm | Ba ppm | Be ppm | C %  | C org. % | C crb. % | Ca % |
|-----------------|----------|-----------|------|--------|-------|--------|--------|------|----------|----------|------|
| Clinton County  |          |           |      |        |       |        |        |      |          |          |      |
| 146262          | 39 34 1  | 94 23 13  | 5    | 11.0   | 30    | 700    | 1.0    | 1.95 | 2.0      | <.01     | .6   |
| 145433          | 39 31 30 | 94 22 15  | 6    | 9.2    | 20    | 700    | 1.5    | 1.63 | 1.5      | .09      | .6   |
| 146200          | 39 39 43 | 94 32 13  | 5    | 7.6    | 30    | 700    | <1.0   | .81  | .8       | <.01     | .6   |
| 145863          | 39 33 14 | 94 18 28  | 5    | 18.0   | 30    | 700    | 1.5    | 2.34 | 2.3      | .01      | .6   |
| 146006          | 39 36 28 | 94 31 1   | 5    | 12.0   | 30    | 700    | 1.0    | 1.83 | 1.8      | .02      | .4   |
| 146385          | 39 37 58 | 94 23 31  | 5    | 11.0   | 30    | 700    | 1.0    | 3.65 | 3.6      | <.01     | .7   |
| 146041          | 39 39 0  | 94 15 28  | 4    | 5.8    | 30    | 700    | 1.0    | .92  | .9       | .01      | .5   |
| 146517          | 39 30 14 | 94 26 31  | 5    | 14.0   | 20    | 700    | <1.0   | 2.35 | 2.1      | .15      | .4   |
| 146194          | 39 28 1  | 94 19 1   | 5    | 11.0   | 30    | 700    | <1.0   | 1.87 | 1.8      | .02      | .6   |
| 145747          | 39 44 31 | 94 27 0   | 5    | 9.8    | 30    | 700    | N      | 1.60 | 1.6      | <.01     | .4   |
| Cole County     |          |           |      |        |       |        |        |      |          |          |      |
| 145621          | 38 26 31 | 92 12 28  | 5    | 11.0   | 50    | 700    | <1.0   | .87  | .8       | .09      | .3   |
| 146523          | 38 29 31 | 92 1 58   | 6    | 12.0   | 30    | 700    | <1.0   | 1.01 | 1.0      | .02      | .2   |
| 145710          | 38 30 28 | 92 24 0   | 4    | 6.2    | 30    | 700    | 1.0    | .94  | .9       | .03      | .2   |
| 145462          | 38 27 0  | 92 19 1   | 4    | 6.8    | 50    | 700    | 1.0    | .90  | .8       | .10      | .3   |
| 145731          | 38 31 58 | 92 26 31  | 4    | 8.7    | 30    | 700    | <1.0   | 1.27 | 1.2      | .04      | .4   |
| 145499          | 38 34 30 | 92 25 30  | 4    | 4.3    | 30    | 700    | <1.0   | 1.04 | 1.0      | .07      | .4   |
| 145482          | 38 31 1  | 92 4 1    | 5    | 9.1    | 30    | 700    | N      | .95  | .9       | .06      | .3   |
| 146536          | 38 29 31 | 92 10 58  | 5    | 15.0   | 30    | 700    | <1.0   | 1.39 | 1.3      | .08      | .5   |
| 145614          | 38 22 30 | 92 13 58  | 4    | 12.0   | 30    | 700    | <1.0   | 1.90 | 1.8      | .10      | .5   |
| 145751          | 38 25 1  | 92 10 1   | 4    | 7.6    | 30    | 500    | N      | 1.17 | 1.1      | .09      | .4   |
| Cooper County   |          |           |      |        |       |        |        |      |          |          |      |
| 145911          | 38 55 30 | 92 50 13  | 4    | 9.4    | 70    | 700    | 1.0    | .80  | .8       | .01      | .4   |
| 145772          | 38 51 0  | 92 34 1   | 4    | 8.9    | 30    | 1,000  | <1.0   | 1.00 | 1.0      | .02      | .4   |
| 145643          | 38 44 31 | 92 55 15  | 4    | 13.0   | 30    | 700    | <1.0   | 1.50 | 1.4      | .05      | .4   |
| 145989          | 38 51 28 | 92 48 28  | 4    | 8.6    | 50    | 700    | 1.0    | 1.06 | 1.1      | .01      | .3   |
| 146151          | 38 46 58 | 92 46 44  | 4    | 9.4    | 30    | 700    | <1.0   | 1.66 | 1.7      | <.01     | .4   |
| 146004          | 38 53 31 | 92 40 30  | 4    | 7.4    | 30    | 1,000  | 1.0    | .76  | .8       | <.01     | .4   |
| 145746          | 38 52 58 | 92 52 58  | 5    | 11.0   | 30    | 700    | N      | 1.07 | 1.0      | .03      | .4   |
| 146320          | 38 56 13 | 92 47 31  | 5    | 11.0   | 50    | 1,000  | 1.5    | .69  | .7       | .03      | .4   |
| 146443          | 38 48 28 | 92 34 1   | 5    | 11.0   | 30    | 700    | <1.0   | 1.23 | 1.2      | .03      | .4   |
| 146311          | 38 58 58 | 92 56 13  | 4    | 9.9    | 50    | 1,000  | 1.0    | 1.10 | 1.1      | .04      | .3   |
| Crawford County |          |           |      |        |       |        |        |      |          |          |      |
| 146317          | 37 55 1  | 91 19 58  | 2    | 5.4    | 30    | 700    | <1.0   | 1.06 | 1.0      | .03      | .3   |
| 146249          | 37 55 1  | 91 31 1   | 3    | 4.9    | 30    | 500    | N      | 1.06 | 1.0      | .02      | .1   |
| 146363          | 38 3 0   | 91 25 58  | 2    | 4.6    | 30    | 300    | N      | 1.05 | 1.0      | .08      | .3   |
| 145562          | 38 7 1   | 91 7 58   | 3    | 5.5    | 50    | 500    | <1.0   | 1.12 | 1.0      | .11      | .3   |
| 146190          | 38 4 58  | 91 13 58  | 4    | 10.0   | 30    | 700    | <1.0   | 1.20 | 1.2      | .02      | .4   |
| 146012          | 38 9 0   | 91 22 58  | 3    | 12.0   | 30    | 700    | N      | 1.40 | 1.4      | .01      | .1   |
| 145521          | 38 9 0   | 91 9 0    | 3    | 4.7    | 50    | 700    | <1.0   | .98  | 1.0      | .02      | .2   |
| 145868          | 37 58 1  | 91 21 0   | 3    | 6.2    | 30    | 300    | 1.0    | 1.04 | 1.0      | .03      | .2   |
| 145980          | 38 7 58  | 91 28 58  | 4    | 13.0   | 30    | 700    | <1.0   | 1.56 | 1.6      | <.01     | .3   |
| 146147          | 37 58 1  | 91 24 0   | 2    | 4.8    | 30    | 300    | N      | 1.02 | .9       | .12      | .4   |

Table 3.--Locations and concentrations of frequently detected elements for agricultural soils of Missouri--continued

| Sample          | Ce ppm | Co ppm | Cr ppm | Cu ppm | F %  | Fe % | Ga ppm | Hg ppm | I ppm | K % | La ppm |
|-----------------|--------|--------|--------|--------|------|------|--------|--------|-------|-----|--------|
| Clinton County  |        |        |        |        |      |      |        |        |       |     |        |
| 146262          | 150    | 15     | 70     | 20     | .035 | 2.6  | 15     | .04    | --    | 1.7 | 70     |
| 145433          | 150    | 10     | 70     | 20     | .030 | 2.4  | 15     | .06    | --    | 1.5 | 50     |
| 146200          | 150    | 7      | 70     | 10     | .022 | 1.7  | 15     | .02    | 2.49  | 1.7 | 30     |
| 145863          | <150   | 10     | 30     | 20     | .031 | 2.7  | 15     | .08    | --    | 1.8 | 50     |
| 146006          | <150   | 10     | 70     | 15     | .035 | 3.0  | 15     | .05    | --    | 2.0 | 50     |
| 146385          | <150   | 7      | 50     | 20     | .019 | 2.6  | 15     | .22    | --    | 2.0 | 30     |
| 146041          | <150   | 7      | 50     | 15     | .320 | 1.7  | 10     | .03    | --    | 1.7 | 30     |
| 146517          | <150   | 7      | 30     | 15     | .047 | 2.3  | 15     | .02    | --    | 2.0 | 30     |
| 146194          | 150    | 7      | 70     | 15     | .027 | 2.2  | 15     | .06    | --    | 1.7 | 50     |
| 145747          | 150    | 10     | 50     | 15     | .025 | 2.2  | 15     | .05    | --    | 2.0 | 50     |
| Cole County     |        |        |        |        |      |      |        |        |       |     |        |
| 145621          | 150    | 15     | 70     | 15     | .034 | 2.4  | 15     | .03    | --    | 1.7 | 70     |
| 146523          | <150   | 10     | 50     | 10     | .031 | 2.4  | 15     | .04    | --    | 1.7 | 30     |
| 145710          | 150    | 15     | 50     | 7      | .043 | 1.7  | 7      | .04    | --    | 1.8 | 70     |
| 145462          | 150    | 15     | 70     | 15     | .021 | 1.7  | 15     | .06    | --    | 1.7 | 50     |
| 145731          | <150   | 15     | 50     | 15     | .033 | 1.9  | 7      | .04    | --    | 1.8 | 30     |
| 145499          | <150   | 7      | 50     | 10     | .170 | 1.1  | 7      | .03    | --    | 1.6 | 30     |
| 145482          | <150   | 7      | 70     | 15     | .024 | 2.2  | 15     | .05    | --    | 1.6 | 30     |
| 146536          | <150   | 15     | 70     | 15     | .037 | 2.9  | 15     | .06    | --    | 1.4 | 30     |
| 145614          | 150    | 10     | 70     | 15     | .024 | 2.3  | 15     | .69    | --    | 1.3 | 50     |
| 145751          | <150   | 10     | 30     | 10     | .022 | 2.0  | 7      | .02    | 3.84  | 1.2 | 30     |
| Cooper County   |        |        |        |        |      |      |        |        |       |     |        |
| 145911          | <150   | 15     | 70     | 10     | .032 | 2.2  | 15     | .05    | --    | 1.7 | 30     |
| 145772          | 150    | 7      | 70     | 20     | .024 | 2.0  | 10     | .04    | --    | 1.9 | 50     |
| 145643          | 150    | 10     | 70     | 10     | .029 | 2.1  | 15     | .08    | --    | 1.2 | 70     |
| 145989          | 150    | 15     | 70     | 15     | .024 | 2.3  | 15     | .02    | --    | 2.0 | 50     |
| 146151          | <150   | 7      | 70     | 15     | .027 | 1.7  | 10     | .04    | --    | 1.7 | 50     |
| 146004          | 150    | 10     | 50     | 15     | .021 | 2.0  | 10     | .04    | --    | 1.9 | 50     |
| 145746          | 150    | 7      | 50     | 10     | .024 | 2.4  | 10     | .02    | --    | 1.7 | 30     |
| 146320          | 150    | 15     | 70     | 15     | .034 | 2.6  | 20     | .05    | --    | 1.7 | 70     |
| 146443          | <150   | 7      | 70     | 7      | .040 | 2.0  | 10     | .03    | 3.99  | 1.7 | 50     |
| 146311          | 150    | 10     | 70     | 10     | .020 | 1.7  | 15     | .06    | --    | 1.8 | 70     |
| Crawford County |        |        |        |        |      |      |        |        |       |     |        |
| 146317          | <150   | 10     | 30     | 10     | .017 | 1.3  | 7      | .03    | --    | 1.1 | 70     |
| 146249          | <150   | 7      | 30     | 15     | .013 | 1.3  | 7      | .03    | --    | 1.1 | 30     |
| 146363          | <150   | 7      | 30     | 10     | .012 | 1.3  | 10     | .04    | --    | .7  | 30     |
| 145562          | 150    | 10     | 30     | 10     | .150 | 1.3  | 7      | .06    | --    | 1.2 | 50     |
| 146190          | 150    | 15     | 70     | 7      | .019 | 2.2  | 7      | .04    | --    | 1.1 | 70     |
| 146012          | 150    | 15     | 50     | 10     | .017 | 1.7  | 10     | .05    | --    | 1.4 | 50     |
| 145521          | <150   | 7      | 30     | 10     | .020 | 1.2  | 7      | .06    | --    | 1.1 | 30     |
| 145868          | <150   | 7      | 30     | 10     | .012 | 1.2  | 7      | .02    | 3.79  | 1.0 | 30     |
| 145980          | 150    | 10     | 70     | 10     | .027 | 3.0  | 15     | .02    | --    | 1.2 | 70     |
| 146147          | N      | 3      | 30     | 7      | .020 | 1.0  | 5      | .01    | --    | .8  | 30     |

Table 3.--Locations and concentrations of frequently detected elements for agricultural soils of Missouri--continued

| Sample          | Li ppm | Mg % | Mn ppm | Na % | Nb ppm | Nd ppm | Ni ppm | P % | Pb ppm | Sc ppm | Se ppm |
|-----------------|--------|------|--------|------|--------|--------|--------|-----|--------|--------|--------|
| Clinton County  |        |      |        |      |        |        |        |     |        |        |        |
| 146262          | 27     | .39  | 1,000  | .70  | <10    | 70     | 15     | .09 | 20     | 10     | .3     |
| 145433          | 26     | .41  | 500    | .65  | <10    | 70     | 20     | .07 | 20     | 10     | .4     |
| 146200          | 19     | .30  | 500    | .82  | 10     | 70     | 15     | .04 | 15     | 7      | <.1    |
| 145863          | 22     | .42  | 700    | .74  | <10    | 70     | 15     | .18 | 70     | 7      | .2     |
| 146006          | 28     | .58  | 700    | .72  | <10    | 70     | 20     | .09 | 20     | 10     | <.1    |
| 146385          | 24     | .47  | 500    | .69  | <10    | <70    | 15     | .13 | 30     | 7      | .8     |
| 146041          | 20     | .31  | 500    | .85  | <10    | 70     | 15     | .09 | 15     | 7      | <.1    |
| 146517          | 22     | .40  | 500    | .68  | <10    | <70    | 10     | .13 | 20     | 7      | .7     |
| 146194          | 21     | .37  | 700    | .78  | <10    | 70     | 15     | .09 | 15     | 7      | .5     |
| 145747          | 22     | .40  | 700    | .84  | <10    | 70     | 20     | .07 | 15     | 7      | .3     |
| Cole County     |        |      |        |      |        |        |        |     |        |        |        |
| 145621          | 27     | .39  | 1,000  | .59  | <10    | 70     | 15     | .04 | 20     | 10     | .7     |
| 146523          | 26     | .40  | 1,000  | .59  | <10    | <70    | 15     | .04 | 15     | 7      | .8     |
| 145710          | 22     | .26  | 1,000  | .62  | <10    | 70     | 20     | .03 | 15     | 7      | .4     |
| 145462          | 23     | .30  | 1,500  | .57  | <10    | 70     | 15     | .06 | 20     | 7      | .5     |
| 145731          | 22     | .36  | 1,500  | .66  | <10    | 70     | 20     | .02 | 15     | 7      | .5     |
| 145499          | 16     | .21  | 700    | .68  | 10     | 70     | 15     | .08 | 20     | 7      | .4     |
| 145482          | 26     | .36  | 300    | .50  | <10    | 70     | 15     | .04 | 15     | 7      | .6     |
| 146536          | 24     | .35  | 1,500  | .65  | <10    | 70     | 15     | .04 | 20     | 7      | .6     |
| 145614          | 22     | .33  | 700    | .68  | <10    | 70     | 10     | .07 | 30     | 7      | .6     |
| 145751          | 22     | .25  | 1,000  | .53  | <10    | <70    | 15     | .05 | 15     | 7      | <.1    |
| Cooper County   |        |      |        |      |        |        |        |     |        |        |        |
| 145911          | 20     | .28  | 1,000  | .80  | 10     | <70    | 15     | .09 | 20     | 7      | .2     |
| 145772          | 22     | .33  | 700    | .77  | <10    | 70     | 15     | .06 | 15     | 7      | .1     |
| 145643          | 20     | .22  | 700    | .56  | <10    | 70     | 15     | .07 | 15     | 7      | .4     |
| 145989          | 23     | .34  | 1,500  | .71  | 10     | 70     | 20     | .04 | 15     | 10     | <.1    |
| 146151          | 20     | .29  | 700    | .78  | <10    | 70     | 15     | .09 | 15     | 7      | .2     |
| 146004          | 19     | .31  | 1,500  | .82  | 10     | 70     | 20     | .09 | 20     | 7      | <.1    |
| 145746          | 23     | .37  | 500    | .70  | <10    | 70     | 15     | .04 | 15     | 7      | .9     |
| 146320          | 28     | .11  | 700    | .62  | 10     | 70     | 20     | .04 | 20     | 15     | .3     |
| 146443          | 20     | .27  | 500    | .82  | <10    | 70     | 15     | .04 | 15     | 7      | .7     |
| 146311          | 21     | .32  | 1,500  | .85  | 10     | 70     | 20     | .09 | 30     | 7      | .1     |
| Crawford County |        |      |        |      |        |        |        |     |        |        |        |
| 146317          | 18     | .24  | 1,500  | .34  | <10    | 70     | 10     | .09 | 20     | 7      | <.1    |
| 146249          | 17     | .15  | 700    | .31  | 10     | <70    | 7      | .04 | 15     | 7      | <.1    |
| 146363          | 16     | .20  | 300    | .25  | <10    | <70    | 15     | .03 | 15     | 5      | .1     |
| 145562          | 19     | .23  | 1,000  | .36  | 10     | 70     | 15     | .07 | 15     | 7      | .4     |
| 146190          | 20     | .24  | 1,500  | .52  | <10    | 70     | 10     | .04 | 20     | 7      | .3     |
| 146012          | 19     | .21  | 1,500  | .47  | <10    | 70     | 10     | .04 | 30     | 7      | <.1    |
| 145521          | 15     | .16  | 1,000  | .33  | <10    | <70    | 15     | .08 | 30     | 7      | .3     |
| 145868          | 15     | .18  | 1,000  | .29  | <10    | <70    | 15     | .10 | 20     | 5      | .1     |
| 145980          | 22     | .28  | 700    | .49  | 10     | 70     | 20     | .04 | 15     | 10     | .2     |
| 146147          | 16     | .29  | 150    | .27  | <10    | N      | 7      | .04 | 15     | <5     | .1     |



Table 3.--Locations and concentrations of frequently detected elements for agricultural soils of Missouri--continued

| Sample          | Si % | Sr ppm | Th ppm | Ti % | U ppm | V ppm | Y ppm | Yb ppm | Zn ppm | Zr ppm |
|-----------------|------|--------|--------|------|-------|-------|-------|--------|--------|--------|
| Clinton County  |      |        |        |      |       |       |       |        |        |        |
| 146262          | 31   | 150    | --     | .30  | --    | 100   | 30    | 5.0    | 64     | 300    |
| 145433          | 32   | 150    | 9.60   | .50  | 4.09  | 100   | 30    | 2.0    | 57     | 300    |
| 146200          | 36   | 150    | 10.19  | .30  | 3.40  | 70    | 30    | 3.0    | 43     | 300    |
| 145863          | 34   | 200    | --     | .30  | --    | 70    | 30    | 3.0    | 117    | 200    |
| 146006          | 30   | 150    | --     | .30  | --    | 100   | 30    | 3.0    | 68     | 300    |
| 146385          | 31   | 150    | --     | .20  | --    | 70    | 30    | 3.0    | 137    | 150    |
| 146041          | 32   | 150    | --     | .30  | --    | 70    | 30    | 3.0    | 53     | 300    |
| 146517          | 33   | 150    | --     | .20  | --    | 70    | 30    | 3.0    | 115    | 200    |
| 146194          | 33   | 200    | --     | .30  | --    | 70    | 30    | 3.0    | 62     | 300    |
| 145747          | 36   | 150    | --     | .30  | --    | 70    | 30    | 3.0    | 64     | 200    |
| Cole County     |      |        |        |      |       |       |       |        |        |        |
| 145621          | 34   | 150    | --     | .50  | --    | 100   | 50    | 3.0    | 56     | 500    |
| 146523          | 34   | 150    | --     | .30  | --    | 70    | 30    | 3.0    | 74     | 300    |
| 145710          | 37   | 150    | --     | .30  | 5.74  | 70    | 30    | 3.0    | 50     | 300    |
| 145462          | 36   | 100    | --     | .50  | --    | 70    | 30    | 3.0    | 46     | 500    |
| 145731          | 35   | 100    | 9.21   | .50  | 4.16  | 70    | 50    | 3.0    | 46     | 500    |
| 145499          | 37   | 100    | --     | .30  | --    | 50    | 30    | 3.0    | 40     | 500    |
| 145482          | 35   | 100    | --     | .30  | --    | 70    | 30    | 3.0    | 55     | 300    |
| 146536          | 34   | 150    | --     | .30  | --    | 70    | 30    | 3.0    | 54     | 300    |
| 145614          | 34   | 150    | --     | .30  | --    | 70    | 30    | 3.0    | 64     | 300    |
| 145751          | 38   | 100    | --     | .30  | --    | 70    | 30    | 3.0    | 31     | 300    |
| Cooper County   |      |        |        |      |       |       |       |        |        |        |
| 145911          | 34   | 150    | --     | .50  | --    | 70    | 30    | 3.0    | 77     | 700    |
| 145772          | 37   | 150    | --     | .30  | --    | 70    | 30    | 3.0    | 45     | 300    |
| 145643          | 36   | 150    | 12.06  | .30  | 4.00  | 70    | 30    | 3.0    | 40     | 300    |
| 145989          | 34   | 150    | --     | .30  | --    | 70    | 30    | 3.0    | 50     | 700    |
| 146151          | 36   | 150    | --     | .30  | --    | 70    | 30    | 3.0    | 46     | 300    |
| 146004          | 33   | 150    | --     | .50  | --    | 70    | 30    | 3.0    | 48     | 500    |
| 145746          | 36   | 100    | --     | .30  | --    | 70    | 30    | 3.0    | 46     | 300    |
| 146320          | 33   | 200    | --     | .30  | --    | 150   | 30    | 5.0    | 58     | 200    |
| 146443          | 36   | 150    | --     | .30  | --    | 70    | 30    | 3.0    | 36     | 500    |
| 146311          | 38   | 200    | --     | .30  | 4.40  | 100   | 70    | 7.0    | 68     | 300    |
| Crawford County |      |        |        |      |       |       |       |        |        |        |
| 146317          | 39   | 100    | --     | .30  | --    | 70    | 30    | 5.0    | 28     | 200    |
| 146249          | 39   | 70     | 8.46   | .30  | 3.22  | 30    | 30    | 3.0    | 27     | 300    |
| 146363          | 39   | 70     | --     | .20  | --    | 50    | 20    | 3.0    | 28     | 300    |
| 145562          | 37   | 70     | --     | .30  | --    | 50    | 30    | 3.0    | 45     | 300    |
| 146190          | 36   | 150    | --     | .30  | --    | 70    | 50    | 5.0    | 32     | 500    |
| 146012          | 34   | 100    | --     | .30  | --    | 70    | 30    | 3.0    | 33     | 200    |
| 145521          | 38   | 70     | --     | .30  | --    | 50    | 30    | 3.0    | 66     | 300    |
| 145868          | 40   | 70     | --     | .30  | 2.77  | 30    | 30    | 3.0    | 33     | 200    |
| 145980          | 33   | 150    | --     | .30  | --    | 70    | 50    | 5.0    | 38     | 300    |
| 146147          | 40   | 50     | --     | .30  | --    | 30    | 20    | 2.0    | 32     | 300    |



Table 3.--Locations and concentrations of frequently detected elements for agricultural soils of Missouri--continued

| Sample         | Latitude | Longitude | Al % | As ppm | B ppm | Ba ppm | Be ppm | C %  | C org. % | C crb. % | Ca % |
|----------------|----------|-----------|------|--------|-------|--------|--------|------|----------|----------|------|
| Dade County    |          |           |      |        |       |        |        |      |          |          |      |
| 146085         | 37 18 0  | 93 57 0   | 3    | 9.9    | 30    | 300    | <1.0   | 1.09 | 1.1      | <.01     | .2   |
| 146502         | 37 22 30 | 94 1 58   | 3    | 7.3    | 20    | 200    | N      | 1.13 | 1.1      | .03      | .1   |
| 146120         | 37 22 1  | 93 54 0   | 4    | 13.0   | 30    | 300    | 1.0    | 2.77 | 2.8      | .01      | .4   |
| 146184         | 37 0 0   | 89 37 30  | 4    | 8.5    | 30    | 300    | N      | .93  | .9       | <.01     | .4   |
| 146606         | 37 24 0  | 93 40 1   | 3    | 6.6    | 20    | 500    | <1.0   | 1.26 | 1.2      | .05      | .2   |
| 145463         | 37 32 45 | 93 57 43  | 4    | 10.0   | 20    | 300    | N      | 2.65 | 2.6      | .10      | .3   |
| 145985         | 37 18 0  | 93 37 58  | 3    | 6.0    | 50    | 700    | 1.0    | 1.38 | 1.3      | .04      | .1   |
| 145604         | 37 31 1  | 94 1 58   | 4    | 13.0   | 30    | 300    | 1.0    | 1.93 | 1.9      | .03      | .1   |
| 145565         | 37 28 58 | 93 49 58  | 4    | 8.8    | 30    | 500    | N      | 4.60 | 4.5      | .07      | .6   |
| 145608         | 37 27 28 | 93 58 1   | 2    | 9.2    | 30    | 300    | N      | 1.20 | 1.1      | .08      | .2   |
| Dallas County  |          |           |      |        |       |        |        |      |          |          |      |
| 146316         | 37 49 58 | 93 9 0    | 3    | 5.6    | 50    | 700    | <1.0   | 1.60 | 1.6      | .01      | .1   |
| 146587         | 37 36 14 | 93 3 43   | 4    | 7.6    | 30    | 500    | <1.0   | .82  | .8       | .02      | .1   |
| 145428         | 37 51 0  | 93 1 58   | 4    | 10.0   | 30    | 300    | <1.0   | 1.33 | 1.2      | .08      | .1   |
| 146546         | 37 46 15 | 93 9 43   | 3    | 11.0   | 30    | 300    | 1.0    | 1.27 | 1.2      | .02      | .1   |
| 145437         | 37 25 44 | 93 9 0    | 3    | 5.8    | 20    | 500    | <1.0   | 1.14 | 1.0      | .10      | .1   |
| 145622         | 37 32 13 | 93 1 58   | 3    | 6.5    | 30    | 700    | <1.0   | 1.53 | 1.4      | .14      | .4   |
| 146374         | 37 45 0  | 93 0 28   | 3    | 9.6    | 30    | 300    | 1.0    | 1.13 | 1.1      | .02      | .1   |
| 145927         | 37 45 28 | 93 3 0    | 4    | 9.1    | 30    | 700    | <1.0   | .77  | .8       | .01      | .1   |
| 146010         | 37 33 14 | 92 52 44  | 3    | 8.8    | 30    | 700    | 1.0    | 1.52 | 1.5      | <.01     | .1   |
| 145620         | 37 40 30 | 93 0 14   | 2    | 7.8    | 50    | 300    | N      | 1.13 | 1.1      | .05      | .1   |
| Davies County  |          |           |      |        |       |        |        |      |          |          |      |
| 146451         | 39 55 58 | 94 4 1    | 5    | 9.4    | 30    | 500    | <1.0   | 2.10 | 2.1      | .02      | .5   |
| 146384         | 40 1 58  | 94 10 58  | 4    | 6.4    | 30    | 300    | <1.0   | 2.11 | 2.1      | .03      | .5   |
| 145459         | 40 3 0   | 93 51 0   | 5    | 9.2    | 30    | 700    | 1.0    | 2.25 | 2.2      | .10      | .5   |
| 146003         | 40 6 0   | 94 9 0    | 5    | 10.0   | 30    | 700    | 1.0    | .72  | .7       | <.01     | .4   |
| 146296         | 40 1 58  | 94 7 58   | 5    | 8.5    | 30    | 700    | <1.0   | 2.66 | 2.6      | .02      | .4   |
| 146409         | 39 49 1  | 94 7 58   | 4    | 9.9    | 20    | 500    | <1.0   | 1.21 | 1.1      | .07      | .6   |
| 146360         | 39 55 1  | 94 0 0    | 4    | 8.4    | 50    | 700    | 1.5    | 1.03 | 1.0      | .02      | .4   |
| 145977         | 40 6 0   | 93 55 58  | 4    | 8.6    | 30    | 700    | 1.0    | 2.10 | 2.0      | .06      | 1.1  |
| 145539         | 40 0 0   | 94 3 0    | 5    | 9.1    | 30    | 700    | 1.0    | 1.84 | 1.7      | .12      | .5   |
| 145685         | 39 49 1  | 93 55 58  | 4    | 5.5    | 30    | 700    | N      | 1.18 | 1.1      | .09      | .4   |
| De Kalb County |          |           |      |        |       |        |        |      |          |          |      |
| 146545         | 39 58 58 | 94 31 1   | 5    | 13.0   | 30    | 700    | 1.0    | 2.03 | 2.0      | .05      | .5   |
| 146294         | 40 0 0   | 94 27 43  | 6    | 13.0   | 30    | 700    | 1.5    | 1.34 | 1.3      | .02      | .5   |
| 145666         | 39 57 28 | 94 35 27  | 6    | 6.1    | 30    | 700    | 1.5    | 2.03 | 2.0      | .05      | .9   |
| 145436         | 39 49 30 | 94 34 1   | 5    | 7.7    | 20    | 500    | 1.0    | 1.82 | 1.7      | .10      | .4   |
| 146163         | 39 51 0  | 94 25 30  | 5    | 9.6    | 30    | 500    | <1.0   | 1.68 | 1.6      | .03      | .6   |
| 145708         | 39 57 0  | 94 19 58  | 5    | 12.0   | <20   | 500    | <1.0   | .98  | .9       | .05      | .4   |
| 145495         | 39 58 1  | 94 15 14  | 5    | 9.5    | 20    | 500    | 1.0    | 1.66 | 1.6      | .04      | .6   |
| 146063         | 39 54 14 | 94 16 44  | 6    | 9.7    | 30    | 700    | 1.0    | 1.91 | 1.9      | .02      | .6   |
| 145642         | 39 48 28 | 94 15 28  | 5    | 15.0   | 30    | 700    | 1.0    | 1.75 | 1.7      | .08      | .6   |
| 146512         | 39 46 1  | 94 22 15  | 5    | 15.0   | <20   | 500    | <1.0   | 1.23 | 1.2      | .08      | .6   |

Table 3.--Locations and concentrations of frequently detected elements for agricultural soils of Missouri--continued

| Sample         | Ce ppm | Co ppm | Cr ppm | Cu ppm | F%   | Fe % | Ga ppm | Hg ppm | I ppm | K % | La ppm |
|----------------|--------|--------|--------|--------|------|------|--------|--------|-------|-----|--------|
| Dade County    |        |        |        |        |      |      |        |        |       |     |        |
| 146085         | <150   | 7      | 70     | 7      | .015 | 1.9  | 10     | .03    | --    | .7  | 30     |
| 146502         | <150   | 7      | 30     | 7      | .026 | 1.6  | 7      | <.01   | --    | .6  | 30     |
| 146120         | <150   | 15     | 70     | 10     | .018 | 3.1  | 15     | .04    | --    | .7  | 70     |
| 146184         | <150   | 15     | 70     | 10     | .009 | 2.0  | 5      | .01    | --    | 1.4 | 30     |
| 146606         | 150    | 15     | 50     | 10     | .015 | 1.7  | 7      | .04    | --    | 1.2 | 50     |
| 145463         | <150   | 15     | 70     | 15     | .018 | 2.5  | 15     | .05    | --    | .9  | 30     |
| 145985         | 150    | 15     | 70     | 10     | .015 | 1.7  | 10     | .05    | --    | 1.5 | 50     |
| 145604         | <150   | 7      | 70     | 20     | .027 | 2.7  | 7      | .04    | --    | .8  | 30     |
| 145565         | 150    | 7      | 70     | 20     | .130 | 2.4  | 15     | .08    | --    | 1.2 | 70     |
| 145608         | <150   | 10     | 50     | 10     | .023 | 2.1  | 10     | .04    | 4.76  | .6  | 30     |
| Dallas County  |        |        |        |        |      |      |        |        |       |     |        |
| 146316         | 150    | 7      | 70     | 7      | .012 | 1.3  | 7      | .04    | --    | 1.0 | 70     |
| 146587         | <150   | 15     | 50     | 10     | .020 | 1.7  | 10     | .05    | --    | 1.3 | 30     |
| 145428         | 150    | 15     | 50     | 10     | .100 | 2.1  | 15     | .04    | --    | 1.2 | 30     |
| 146546         | <150   | 10     | 70     | 7      | .023 | 2.3  | 7      | .02    | --    | .7  | 30     |
| 145437         | <150   | 15     | 50     | 10     | .014 | 1.5  | 7      | .05    | --    | 1.3 | 30     |
| 145622         | 150    | 10     | 50     | 15     | .016 | 1.5  | 7      | .04    | --    | 1.2 | 50     |
| 146374         | <150   | 15     | 50     | 10     | .008 | 1.8  | 7      | .05    | --    | 1.2 | 30     |
| 145927         | <150   | 7      | 70     | 10     | .022 | 2.1  | 15     | .02    | --    | 1.4 | 30     |
| 146010         | <150   | 7      | 70     | 7      | .016 | 1.9  | 10     | .05    | 1.89  | 1.2 | 50     |
| 145620         | 150    | 10     | 30     | 15     | .013 | 1.3  | 5      | .03    | --    | .9  | 30     |
| Davies County  |        |        |        |        |      |      |        |        |       |     |        |
| 146451         | <150   | 7      | 70     | 10     | .004 | 2.2  | 10     | .02    | --    | 1.1 | 30     |
| 146384         | <150   | 5      | 30     | 10     | .004 | 1.7  | 15     | .03    | --    | 1.3 | 30     |
| 145459         | 150    | 10     | 70     | 15     | .030 | 2.2  | 15     | .05    | --    | 1.7 | 50     |
| 146003         | <150   | 15     | 50     | 15     | .026 | 2.2  | 10     | .04    | --    | 2.0 | 50     |
| 146296         | 150    | 10     | 70     | 15     | .021 | 2.0  | 15     | .05    | --    | 1.3 | 70     |
| 146409         | <150   | 7      | 30     | 10     | .052 | 2.3  | 15     | .02    | 3.81  | 1.0 | 30     |
| 146360         | <150   | 10     | 70     | 15     | .013 | 1.7  | 10     | .02    | --    | 1.5 | 30     |
| 145977         | 150    | 7      | 70     | 20     | .039 | 2.5  | 15     | .04    | --    | 1.7 | 50     |
| 145539         | 150    | 10     | 70     | 20     | .170 | 2.1  | 15     | .09    | --    | 1.7 | 70     |
| 145685         | <150   | 10     | 50     | 15     | .024 | 1.8  | 10     | .04    | --    | 1.6 | 30     |
| De Kalb County |        |        |        |        |      |      |        |        |       |     |        |
| 146545         | <150   | 15     | 50     | 15     | .029 | 2.5  | 15     | .01    | --    | 1.8 | 30     |
| 146294         | 150    | 15     | 70     | 20     | .031 | 2.9  | 20     | .03    | --    | 1.2 | 70     |
| 145666         | 150    | 7      | 70     | 10     | .090 | 2.3  | 15     | .01    | --    | 1.8 | 70     |
| 145436         | <150   | 7      | 50     | 10     | .034 | 1.9  | 15     | .04    | 5.37  | 1.3 | 30     |
| 146163         | 150    | 10     | 70     | 15     | .033 | 2.2  | 15     | .04    | --    | 1.2 | 50     |
| 145708         | <150   | 7      | 50     | 15     | .023 | 3.1  | 15     | .04    | --    | 1.3 | 30     |
| 145495         | <150   | 10     | 70     | 15     | .190 | 2.5  | 15     | .04    | --    | 1.2 | 30     |
| 146063         | 150    | 10     | 70     | 20     | .033 | 2.8  | 20     | .04    | --    | 1.7 | 70     |
| 145642         | <150   | 10     | 70     | 15     | .032 | 2.3  | 15     | .07    | --    | 1.7 | 50     |
| 146512         | <150   | 10     | 50     | 15     | .039 | 2.8  | 15     | <.01   | --    | 1.4 | 30     |

Table 3.--Locations and concentrations of frequently detected elements for agricultural soils of Missouri--continued

| Sample         | Li ppm | Mg % | Mn ppm | Na % | Nb ppm | Nd ppm | Ni ppm | P %  | Pb ppm | Sc ppm | Se ppm |
|----------------|--------|------|--------|------|--------|--------|--------|------|--------|--------|--------|
| Dade County    |        |      |        |      |        |        |        |      |        |        |        |
| 146085         | 19     | .13  | 300    | .32  | <10    | 70     | 7      | .04  | 20     | 7      | .2     |
| 146502         | 15     | .11  | 300    | .16  | <10    | <70    | 7      | .04  | 15     | 7      | .7     |
| 146120         | 24     | .22  | 500    | .22  | <10    | 70     | 20     | .04  | 30     | 7      | .2     |
| 146184         | 17     | .10  | 1,500  | .26  | 10     | <70    | 15     | .09  | 15     | 5      | <.1    |
| 146606         | 20     | .14  | 1,500  | .30  | <10    | 70     | 15     | .09  | 20     | 7      | .6     |
| 145463         | 22     | .22  | 700    | .28  | <10    | 70     | 15     | .05  | 15     | 7      | .4     |
| 145985         | 22     | .16  | 1,500  | .30  | 15     | 70     | 15     | .09  | 30     | 7      | <.1    |
| 145604         | 28     | .17  | 300    | .18  | <10    | <70    | 15     | .11  | 20     | 7      | .7     |
| 145565         | 29     | .27  | 1,000  | .22  | 10     | 70     | 20     | .09  | 20     | 15     | .2     |
| 145608         | 17     | .11  | 1,000  | .19  | <10    | <70    | 7      | .04  | 20     | 7      | .7     |
| Dallas County  |        |      |        |      |        |        |        |      |        |        |        |
| 146316         | 20     | .17  | 700    | .30  | 10     | 70     | 10     | .04  | 20     | 7      | .2     |
| 146587         | 25     | .20  | 1,500  | .33  | 10     | <70    | 7      | .03  | 20     | 7      | .5     |
| 145428         | 24     | .21  | 1,000  | .32  | <10    | 70     | 10     | .04  | 20     | 7      | .5     |
| 146546         | 21     | .16  | 500    | .24  | <10    | 70     | 7      | .02  | 20     | 7      | .5     |
| 145437         | 19     | .14  | 1,500  | .26  | <10    | <70    | 10     | .04  | 20     | 7      | .4     |
| 145622         | 19     | .17  | 1,000  | .30  | <10    | 70     | 7      | .06  | 20     | 7      | .4     |
| 146374         | 20     | .15  | 1,000  | .40  | <10    | 70     | <5     | .04  | 30     | 7      | .5     |
| 145927         | 27     | .24  | 500    | .35  | 15     | 70     | 7      | <.04 | 20     | 7      | <.1    |
| 146010         | 23     | .20  | 700    | .32  | 10     | <70    | 7      | .04  | 20     | 7      | <.1    |
| 145620         | 18     | .10  | 1,000  | .26  | <10    | 70     | 7      | .10  | 30     | 7      | .3     |
| Davies County  |        |      |        |      |        |        |        |      |        |        |        |
| 146451         | 27     | .28  | 300    | .47  | <10    | <70    | 15     | .04  | 20     | 7      | .6     |
| 146384         | 21     | .38  | 300    | .56  | <10    | <70    | 10     | .09  | 15     | 7      | .5     |
| 145459         | 23     | .39  | 700    | .79  | <10    | 70     | 15     | .08  | 15     | 7      | .6     |
| 146003         | 21     | .36  | 1,500  | .88  | 10     | 70     | 15     | .09  | 30     | 7      | <.1    |
| 146296         | 24     | .33  | 700    | .62  | 10     | 70     | 15     | .09  | 20     | 10     | .2     |
| 146409         | 26     | .30  | 200    | .47  | <10    | <70    | 7      | .04  | 15     | 7      | .3     |
| 146360         | 22     | .27  | 1,000  | .74  | <10    | <70    | 15     | .04  | 20     | 7      | .2     |
| 145977         | 24     | .42  | 1,000  | .60  | 10     | <70    | 15     | .13  | 15     | 10     | .2     |
| 145539         | 23     | .39  | 1,000  | .76  | 10     | 70     | 20     | .06  | 20     | 10     | .6     |
| 145685         | 23     | .30  | 1,000  | .72  | <10    | <70    | 20     | .07  | 15     | 7      | .3     |
| De Kalb County |        |      |        |      |        |        |        |      |        |        |        |
| 146545         | 25     | .46  | 700    | .76  | <10    | 70     | 15     | .04  | 20     | 7      | 1.1    |
| 146294         | 33     | .43  | 300    | .53  | <10    | 70     | 30     | .04  | 30     | 15     | .3     |
| 145666         | 21     | .40  | 300    | .76  | <10    | 70     | 20     | .07  | 15     | 10     | .6     |
| 145436         | 23     | .31  | 300    | .57  | <10    | 70     | 15     | .06  | 20     | 7      | .5     |
| 146163         | 26     | .32  | 300    | .53  | <10    | 70     | 15     | .04  | 20     | 10     | .1     |
| 145708         | 32     | .36  | 150    | .54  | <10    | <70    | 30     | .05  | 15     | 10     | .6     |
| 145495         | 28     | .33  | 300    | .49  | <10    | 70     | 20     | .06  | 20     | 10     | 1.1    |
| 146063         | 32     | .44  | 500    | .54  | <10    | 70     | 20     | .09  | 15     | 15     | .6     |
| 145642         | 23     | .39  | 1,000  | .77  | <10    | <70    | 15     | .04  | 20     | 7      | 1.0    |
| 146512         | 30     | .39  | 300    | .51  | <10    | <70    | 15     | .03  | 15     | 7      | .7     |

Table 3.--Locations and concentrations of frequently detected elements for agricultural soils of Missouri--continued

| Sample         | Si % | Sr ppm | Th ppm | Ti % | U ppm | V ppm | Y ppm | Yb ppm | Zn ppm | Zr ppm |
|----------------|------|--------|--------|------|-------|-------|-------|--------|--------|--------|
| Dade County    |      |        |        |      |       |       |       |        |        |        |
| 146085         | 38   | 70     | --     | .30  | --    | 70    | 30    | 3.0    | 27     | 300    |
| 146502         | 40   | 50     | --     | .30  | --    | 70    | 30    | 3.0    | 22     | 500    |
| 146120         | 34   | 70     | --     | .30  | --    | 70    | 50    | 5.0    | 40     | 200    |
| 146184         | 36   | 50     | --     | .30  | --    | 30    | 30    | 3.0    | 116    | 500    |
| 146606         | 38   | 70     | --     | .30  | --    | 50    | 30    | 3.0    | 42     | 500    |
| 145463         | 34   | 70     | --     | .30  | --    | 70    | 30    | 3.0    | 41     | 200    |
| 145985         | 37   | 70     | 9.73   | .50  | 4.11  | 70    | 70    | 7.0    | 34     | 700    |
| 145604         | 37   | 70     | 10.97  | .30  | 3.78  | 70    | 30    | 3.0    | 92     | 700    |
| 145565         | 32   | 100    | --     | .30  | --    | 70    | 70    | 5.0    | 83     | 200    |
| 145608         | 39   | 50     | --     | .30  | --    | 70    | 30    | 3.0    | 25     | 300    |
| Dallas County  |      |        |        |      |       |       |       |        |        |        |
| 146316         | 38   | 100    | 10.05  | .50  | 3.95  | 70    | 30    | 5.0    | 27     | 300    |
| 146587         | 38   | 70     | --     | .30  | --    | 70    | 30    | 3.0    | 29     | 500    |
| 145428         | 37   | 70     | --     | .30  | --    | 70    | 30    | 2.0    | 29     | 300    |
| 146546         | 35   | 70     | --     | .30  | --    | 70    | 30    | 3.0    | 26     | 500    |
| 145437         | 38   | 70     | --     | .50  | --    | 50    | 30    | 3.0    | 24     | 500    |
| 145622         | 37   | 70     | --     | .30  | --    | 70    | 30    | 3.0    | 26     | 300    |
| 146374         | 39   | 70     | --     | .30  | --    | 70    | 30    | 3.0    | 32     | 300    |
| 145927         | 35   | 70     | --     | .50  | 10.71 | 70    | 30    | 3.0    | 38     | 300    |
| 146010         | 35   | 70     | --     | .50  | --    | 70    | 30    | 3.0    | 39     | 300    |
| 145620         | 40   | 50     | --     | .30  | --    | 30    | 30    | 3.0    | 36     | 300    |
| Davies County  |      |        |        |      |       |       |       |        |        |        |
| 146451         | 35   | 150    | 6.76   | .30  | 3.24  | 70    | 20    | 2.0    | 42     | 500    |
| 146384         | 37   | 100    | --     | .20  | --    | 70    | 30    | 3.0    | 42     | 200    |
| 145459         | 34   | 150    | 9.85   | .30  | 4.31  | 100   | 30    | 3.0    | 50     | 300    |
| 146003         | 33   | 150    | --     | .30  | --    | 70    | 30    | 3.0    | 49     | 500    |
| 146296         | 35   | 150    | --     | .30  | --    | 150   | 70    | 5.0    | 52     | 500    |
| 146409         | 33   | 100    | --     | .30  | --    | 70    | 20    | 2.0    | 42     | 150    |
| 146360         | 36   | 150    | --     | .30  | --    | 70    | 30    | 3.0    | 35     | 300    |
| 145977         | 36   | 100    | --     | .30  | --    | 70    | 50    | 5.0    | 100    | 700    |
| 145539         | 34   | 150    | --     | .50  | --    | 100   | 30    | 3.0    | 52     | 300    |
| 145685         | 36   | 150    | --     | .30  | --    | 70    | 30    | 3.0    | 47     | 500    |
| De Kalb County |      |        |        |      |       |       |       |        |        |        |
| 146545         | 33   | 150    | 12.10  | .30  | 4.13  | 70    | 30    | 3.0    | 60     | 300    |
| 146294         | 32   | 200    | --     | .30  | --    | 150   | 50    | 3.0    | 52     | 200    |
| 145666         | 33   | 150    | --     | .30  | --    | 100   | 30    | 3.0    | 68     | 150    |
| 145436         | 35   | 100    | --     | .50  | --    | 70    | 30    | 2.0    | 42     | 300    |
| 146163         | 33   | 150    | --     | .30  | --    | 70    | 50    | 3.0    | 49     | 300    |
| 145708         | 33   | 150    | --     | .30  | --    | 150   | 30    | 3.0    | 57     | 150    |
| 145495         | 34   | 150    | --     | .30  | --    | 150   | 30    | 3.0    | 46     | 200    |
| 146063         | 32   | 200    | --     | .30  | --    | 150   | 30    | 3.0    | 74     | 200    |
| 145642         | 33   | 150    | 10.24  | .30  | 4.11  | 70    | 30    | 3.0    | 54     | 200    |
| 146512         | 32   | 150    | --     | .20  | --    | 70    | 30    | 3.0    | 49     | 200    |

Table 3.--Locations and concentrations of frequently detected elements for agricultural soils of Missouri--continued

| Sample          | Latitude | Longitude | Al % | As ppm | B ppm | Ba ppm | Be ppm | C %  | C org. % | C crb. % | Ca % |
|-----------------|----------|-----------|------|--------|-------|--------|--------|------|----------|----------|------|
| Dent County     |          |           |      |        |       |        |        |      |          |          |      |
| 145841          | 37 39 0  | 91 21 57  | 3    | 7.1    | 30    | 700    | 1.5    | 2.23 | 2.2      | .02      | .1   |
| 145958          | 37 28 58 | 91 16 58  | 2    | 4.0    | 30    | 200    | N      | 1.52 | 1.5      | .02      | .1   |
| 145847          | 37 43 1  | 91 40 58  | 3    | 7.4    | 50    | 500    | N      | .73  | .7       | .03      | .1   |
| 146321          | 37 42 0  | 91 34 1   | 2    | 4.2    | 50    | 500    | N      | .79  | .6       | .19      | <.1  |
| 146109          | 37 42 0  | 91 27 0   | 3    | 7.5    | 30    | 700    | 1.0    | 1.10 | 1.1      | .02      | .1   |
| 146036          | 37 42 0  | 91 48 0   | 3    | 5.5    | 30    | 500    | <1.0   | .53  | .5       | .03      | .1   |
| 146607          | 37 36 0  | 91 42 0   | 3    | 4.4    | 30    | 500    | N      | .46  | .4       | .03      | .1   |
| 145896          | 37 27 0  | 91 40 1   | 2    | 6.5    | 20    | 300    | N      | 1.57 | 1.5      | .08      | .2   |
| 146343          | 37 37 1  | 91 31 1   | 2    | 5.8    | 50    | 700    | N      | 1.10 | 1.1      | <.01     | .1   |
| 146023          | 37 30 0  | 91 31 1   | 3    | 5.7    | 30    | 700    | 1.0    | 1.15 | 1.1      | .04      | .1   |
| Douglas County  |          |           |      |        |       |        |        |      |          |          |      |
| 146172          | 36 47 45 | 92 7 1    | 3    | 6.2    | 30    | 700    | <1.0   | 1.41 | 1.4      | .01      | .1   |
| 145942          | 36 55 30 | 92 33 0   | 2    | 2.9    | 30    | 500    | N      | 1.19 | 1.2      | .02      | .1   |
| 146473          | 36 59 31 | 92 49 30  | 2    | 3.4    | 30    | 300    | <1.0   | 1.27 | 1.2      | .02      | .1   |
| 145828          | 36 50 31 | 92 39 0   | 2    | 8.3    | 30    | 200    | N      | 1.17 | 1.2      | .01      | .2   |
| 145803          | 36 54 0  | 92 15 43  | 2    | 5.7    | 50    | 700    | <1.0   | 1.22 | 1.2      | .02      | .1   |
| 146237          | 36 56 31 | 92 49 15  | 2    | 3.1    | 30    | 200    | N      | 1.42 | 1.4      | .02      | .1   |
| 146508          | 36 52 30 | 92 31 30  | 2    | 7.1    | 70    | 300    | N      | 1.09 | 1.1      | .04      | .1   |
| 146304          | 37 3 14  | 92 52 58  | 4    | 9.2    | 50    | 700    | <1.0   | 1.07 | 1.0      | .05      | .1   |
| 146135          | 36 58 30 | 92 52 58  | 3    | 8.0    | <20   | 700    | <1.0   | 2.33 | 2.3      | .02      | .1   |
| 145778          | 36 57 28 | 92 31 30  | 2    | 4.1    | 30    | 300    | <1.0   | 1.92 | 1.9      | <.01     | .1   |
| Dunklin County  |          |           |      |        |       |        |        |      |          |          |      |
| 145757          | 36 31 58 | 90 1 58   | 3    | 4.9    | <20   | 500    | N      | .64  | .6       | <.01     | .4   |
| 145794          | 36 25 1  | 90 1 1    | 3    | 3.4    | 20    | 700    | N      | .47  | .4       | .04      | .4   |
| 145962          | 36 36 0  | 90 1 58   | 3    | 3.1    | 20    | 700    | N      | .24  | .2       | .01      | .4   |
| 146106          | 36 28 58 | 90 7 58   | 4    | 10.0   | 30    | 700    | <1.0   | .78  | .8       | .02      | .2   |
| 145852          | 36 19 58 | 90 1 58   | 3    | 3.9    | 30    | 700    | N      | .57  | .5       | .05      | .4   |
| 146025          | 36 16 58 | 89 58 58  | 3    | 6.2    | 20    | 700    | N      | .52  | .5       | .02      | .4   |
| 146485          | 36 3 0   | 90 4 58   | 4    | 4.8    | <20   | 700    | N      | .66  | .7       | .01      | .4   |
| 145488          | 36 10 1  | 90 4 1    | 4    | 5.3    | 30    | 700    | <1.0   | .50  | .4       | .11      | .4   |
| 146042          | 36 7 58  | 90 1 1    | 3    | 3.4    | <20   | 700    | N      | .46  | .4       | .01      | .4   |
| 146289          | 36 13 1  | 90 4 1    | 4    | 4.4    | <20   | 700    | N      | .54  | .5       | <.01     | .4   |
| Franklin County |          |           |      |        |       |        |        |      |          |          |      |
| 146011          | 38 30 0  | 91 10 58  | 3    | 11.0   | 30    | 700    | 1.0    | 1.14 | 1.1      | .01      | .3   |
| 146300          | 38 24 0  | 91 7 58   | 4    | 9.4    | 30    | 700    | 1.5    | .83  | .8       | .05      | .3   |
| 146258          | 38 31 1  | 91 18 0   | 3    | 3.7    | 30    | 700    | 1.0    | .88  | .8       | .04      | .3   |
| 146024          | 38 18 0  | 90 49 1   | 2    | 5.7    | 30    | 500    | N      | .66  | .7       | <.01     | .1   |
| 146563          | 38 31 58 | 90 52 1   | 6    | 11.0   | 30    | 700    | 1.5    | 1.44 | 1.4      | .02      | 1.0  |
| 145696          | 38 27 0  | 90 46 58  | 4    | 5.0    | 30    | 700    | N      | .91  | .8       | .06      | .4   |
| 145938          | 38 15 0  | 91 19 1   | 4    | 9.5    | 30    | 700    | 1.0    | 1.18 | 2.0      | <.01     | .4   |
| 145790          | 38 25 58 | 91 0 0    | 3    | 5.7    | 50    | 700    | <1.0   | .98  | 1.0      | <.01     | .5   |
| 146463          | 38 19 1  | 90 54 0   | 4    | 8.2    | 30    | 700    | <1.0   | 1.11 | 1.1      | .04      | .4   |
| 145922          | 38 22 58 | 90 49 1   | 4    | 6.1    | 30    | 700    | 1.0    | 1.10 | 1.1      | <.01     | .3   |



Table 3.--Locations and concentrations of frequently detected elements for agricultural soils of Missouri--continued

| Sample          | Ce ppm | Co ppm | Cr ppm | Cu ppm | F%   | Fe % | Ga ppm | Hg ppm | I ppm | K % | La ppm |
|-----------------|--------|--------|--------|--------|------|------|--------|--------|-------|-----|--------|
| Dent County     |        |        |        |        |      |      |        |        |       |     |        |
| 145841          | 150    | 7      | 30     | 20     | .011 | 1.7  | 7      | .07    | --    | 1.0 | 50     |
| 145958          | <150   | 20     | 15     | 20     | .009 | .9   | <5     | .13    | --    | .4  | 30     |
| 145847          | <150   | 10     | 30     | 7      | .016 | 1.5  | 7      | .04    | 6.43  | 1.0 | 30     |
| 146321          | <150   | 7      | 30     | 7      | .008 | .9   | 5      | .04    | --    | .7  | 30     |
| 146109          | 150    | 15     | 70     | 10     | .012 | 1.7  | 10     | .04    | --    | 1.4 | 30     |
| 146036          | <150   | 7      | 30     | 7      | .420 | 1.4  | 7      | .04    | --    | 1.1 | 30     |
| 146607          | <150   | 7      | 30     | 7      | .026 | 1.1  | 7      | .02    | --    | .9  | 30     |
| 145896          | <150   | 10     | 30     | 15     | .019 | 1.2  | 7      | .04    | --    | .9  | 30     |
| 146343          | <150   | 7      | 50     | 20     | .013 | 1.1  | 10     | .05    | --    | 1.0 | 30     |
| 146023          | 150    | 15     | 50     | 15     | .013 | 1.5  | 7      | .04    | --    | 1.4 | 50     |
| Douglas County  |        |        |        |        |      |      |        |        |       |     |        |
| 146172          | 150    | 15     | 50     | 7      | .014 | 1.4  | 7      | .04    | --    | .9  | 50     |
| 145942          | <150   | 5      | 30     | 7      | .007 | .8   | 5      | .02    | --    | .9  | 50     |
| 146473          | <150   | 3      | 20     | 7      | .006 | .8   | <5     | .04    | --    | .8  | 30     |
| 145828          | <150   | 7      | 15     | 10     | .010 | .9   | <5     | .03    | 3.68  | 1.1 | 30     |
| 145803          | <150   | 15     | 30     | 15     | .011 | 1.3  | 7      | .03    | --    | 1.2 | 50     |
| 146237          | <150   | 7      | 15     | 7      | .013 | .7   | <5     | .06    | --    | 1.0 | 30     |
| 146508          | <150   | 7      | 30     | 7      | .021 | 1.2  | 7      | .28    | --    | 1.1 | 30     |
| 146304          | <150   | 7      | 70     | 10     | .017 | 1.8  | 10     | .09    | --    | 1.2 | 50     |
| 146135          | N      | 3      | 70     | 10     | .032 | 1.8  | 15     | .08    | --    | 1.1 | 30     |
| 145778          | <150   | 7      | 20     | 7      | .005 | .8   | 5      | .05    | --    | .8  | 30     |
| Dunklin County  |        |        |        |        |      |      |        |        |       |     |        |
| 145757          | N      | 3      | 15     | 7      | .005 | .8   | <5     | .02    | --    | 1.5 | 30     |
| 145794          | <150   | 7      | 15     | 7      | .007 | 1.1  | 15     | .02    | --    | 1.7 | 30     |
| 145962          | N      | 3      | 15     | 5      | .006 | 1.0  | 7      | .02    | --    | .8  | N      |
| 146106          | <150   | 7      | 30     | 7      | .011 | 1.8  | 10     | .03    | --    | 1.2 | 30     |
| 145852          | <150   | 3      | 30     | 7      | .008 | 1.0  | 7      | .02    | 1.19  | 1.7 | 30     |
| 146025          | <150   | 7      | 30     | 10     | .009 | 1.0  | 7      | .01    | --    | 1.7 | 30     |
| 146485          | 150    | 7      | 15     | 7      | .003 | .9   | 7      | .04    | --    | 1.6 | 70     |
| 145488          | <150   | 5      | 70     | 7      | .014 | 1.2  | 7      | .04    | --    | 1.7 | 30     |
| 146042          | <150   | 5      | 20     | 7      | .300 | .9   | 7      | .04    | --    | 1.6 | 30     |
| 146289          | <150   | 7      | 20     | 7      | .010 | 1.0  | 10     | <.01   | --    | 1.5 | 30     |
| Franklin County |        |        |        |        |      |      |        |        |       |     |        |
| 146011          | 150    | 15     | 70     | 10     | .020 | 2.1  | 10     | .05    | --    | 1.2 | 50     |
| 146300          | <150   | 15     | 70     | 15     | .021 | 2.0  | 15     | .03    | --    | 1.3 | 50     |
| 146258          | 150    | 7      | 50     | 7      | .016 | 1.0  | 10     | .03    | --    | 1.7 | 50     |
| 146024          | <150   | 10     | 50     | 10     | .013 | 1.3  | 7      | .04    | --    | 1.4 | 30     |
| 146563          | <150   | 7      | 70     | 15     | .042 | 2.6  | 15     | .04    | --    | 1.9 | 30     |
| 145696          | <150   | 7      | 50     | 15     | .063 | 1.5  | 10     | .07    | --    | 1.5 | 30     |
| 145938          | 150    | 15     | 70     | 20     | .023 | 2.2  | 10     | .02    | --    | 1.4 | 50     |
| 145790          | <150   | 10     | 70     | 10     | .016 | 2.3  | 15     | .02    | 2.75  | 1.7 | 50     |
| 146463          | 150    | 15     | 70     | 15     | .019 | 1.6  | 10     | .02    | --    | 1.8 | 50     |
| 145922          | <150   | 10     | 70     | 15     | .021 | 1.7  | 15     | .05    | --    | 1.6 | 50     |



Table 3.--Locations and concentrations of frequently detected elements for agricultural soils of Missouri--continued

| Sample          | Li ppm | Mg % | Mn ppm | Na % | Nb ppm | Nd ppm | Ni ppm | P % | Pb ppm | Sc ppm | Se ppm |
|-----------------|--------|------|--------|------|--------|--------|--------|-----|--------|--------|--------|
| Dent County     |        |      |        |      |        |        |        |     |        |        |        |
| 145841          | 21     | .14  | 200    | .30  | 10     | <70    | 30     | .06 | 30     | 7      | <.1    |
| 145958          | 12     | .09  | 1,000  | .10  | <10    | <70    | 15     | .04 | 15     | <5     | <.1    |
| 145847          | 18     | .17  | 1,000  | .30  | <10    | <70    | 10     | .06 | 15     | 7      | .2     |
| 146321          | 14     | .44  | 500    | .23  | 10     | <70    | 5      | .04 | 15     | 5      | <.1    |
| 146109          | 22     | .23  | 1,500  | .36  | 10     | 70     | 20     | .04 | 20     | 7      | <.1    |
| 146036          | 18     | .22  | 500    | .26  | <10    | N      | 7      | .04 | 15     | 7      | <.1    |
| 146607          | 17     | .14  | 500    | .22  | <10    | <70    | 7      | .02 | 15     | <5     | .3     |
| 145896          | 17     | .14  | 1,500  | .16  | <10    | <70    | 15     | .09 | 15     | 7      | <.1    |
| 146343          | 18     | .14  | 700    | .25  | 10     | <70    | 7      | .04 | 20     | 7      | .1     |
| 146023          | 19     | .17  | 1,500  | .35  | <10    | 70     | 15     | .09 | 15     | 7      | <.1    |
| Douglas County  |        |      |        |      |        |        |        |     |        |        |        |
| 146172          | 20     | .11  | 700    | .19  | 10     | 70     | 10     | .03 | 20     | 7      | <.1    |
| 145942          | 12     | .10  | 1,500  | .21  | 10     | <70    | 7      | .09 | 15     | 5      | <.1    |
| 146473          | 13     | .10  | 1,000  | .19  | <10    | N      | 10     | .04 | 15     | <5     | .2     |
| 145828          | 13     | .10  | 700    | .09  | <10    | <70    | 15     | .06 | 30     | <5     | <.1    |
| 145803          | 19     | .12  | 1,500  | .22  | 10     | <70    | 10     | .05 | 15     | 7      | .2     |
| 146237          | 12     | .10  | 1,000  | .15  | <10    | N      | 5      | .04 | 20     | <5     | <.1    |
| 146508          | 18     | .12  | 700    | .22  | <10    | <70    | 5      | .02 | 15     | 5      | .2     |
| 146304          | 25     | .20  | 500    | .24  | 15     | 70     | 7      | .04 | 20     | 7      | .2     |
| 146135          | 24     | .17  | 500    | .26  | <10    | N      | 5      | .04 | 20     | 7      | <.1    |
| 145778          | 14     | .09  | 1,000  | .17  | <10    | N      | 10     | .04 | 20     | <5     | <.1    |
| Dunklin County  |        |      |        |      |        |        |        |     |        |        |        |
| 145757          | 11     | .14  | 300    | .82  | <10    | N      | 7      | .06 | 15     | <5     | <.1    |
| 145794          | 10     | .16  | 700    | .78  | <10    | N      | 15     | .11 | 15     | <5     | <.1    |
| 145962          | 9      | .12  | 300    | .76  | <10    | --     | 10     | .09 | 15     | <5     | <.1    |
| 146106          | 16     | .18  | 1,500  | .79  | <10    | 70     | 7      | .04 | 15     | 7      | <.1    |
| 145852          | 10     | .16  | 500    | .80  | <10    | <70    | 10     | .08 | 15     | <5     | <.1    |
| 146025          | 12     | .17  | 1,500  | .82  | <10    | <70    | 10     | .09 | 15     | 7      | <.1    |
| 146485          | 8      | .13  | 500    | .82  | <10    | <70    | 15     | .13 | 15     | <5     | .1     |
| 145488          | 14     | .24  | 300    | .93  | <10    | <70    | 15     | .07 | 15     | 5      | .1     |
| 146042          | 8      | .15  | 200    | .93  | <10    | N      | 15     | .09 | 15     | <5     | <.1    |
| 146289          | 11     | .18  | 500    | .93  | <10    | <70    | 15     | .09 | 15     | <5     | <.1    |
| Franklin County |        |      |        |      |        |        |        |     |        |        |        |
| 146011          | 18     | .26  | 1,500  | .56  | <10    | 70     | 20     | .09 | 30     | 7      | <.1    |
| 146300          | 22     | .34  | 700    | .64  | 10     | 70     | 15     | .04 | 30     | 10     | .2     |
| 146258          | 15     | .16  | 1,500  | .62  | <10    | 70     | 15     | .09 | 15     | 7      | <.1    |
| 146024          | 16     | .16  | 1,000  | .45  | <10    | <70    | 7      | .04 | 15     | 7      | <.1    |
| 146563          | 31     | .74  | 500    | .79  | <10    | 70     | 20     | .04 | 15     | 10     | .4     |
| 145696          | 21     | .25  | 700    | .59  | <10    | <70    | 15     | .05 | 30     | 7      | .3     |
| 145938          | 21     | .27  | 1,000  | .53  | 10     | 70     | 15     | .09 | 30     | 7      | .1     |
| 145790          | 19     | .23  | 1,000  | .64  | 15     | 70     | 15     | .04 | 20     | 7      | .1     |
| 146463          | 21     | .30  | 1,500  | .63  | <10    | 70     | 15     | .04 | 20     | 7      | .5     |
| 145922          | 23     | .27  | 700    | .46  | 10     | 70     | 15     | .04 | 30     | 7      | <.1    |

Table 3.--Locations and concentrations of frequently detected elements for agricultural soils of Missouri--continued

| Sample          | Si % | Sr ppm | Th ppm | Ti % | U ppm | V ppm | Y ppm | Yb ppm | Zn ppm | Zr ppm |
|-----------------|------|--------|--------|------|-------|-------|-------|--------|--------|--------|
| Dent County     |      |        |        |      |       |       |       |        |        |        |
| 145841          | 38   | 70     | --     | .30  | --    | 30    | 30    | 3.0    | 87     | 300    |
| 145958          | 39   | 30     | --     | .20  | --    | 20    | 30    | 3.0    | 30     | 150    |
| 145847          | 40   | 70     | 10.47  | .30  | 3.16  | 30    | 30    | 3.0    | 43     | 200    |
| 146321          | 41   | 50     | --     | .30  | --    | 30    | 20    | 3.0    | 25     | 200    |
| 146109          | 38   | 70     | --     | .30  | --    | 70    | 30    | 3.0    | 35     | 200    |
| 146036          | 37   | 70     | --     | .30  | --    | 50    | 20    | 3.0    | 30     | 300    |
| 146607          | 40   | 70     | --     | .30  | --    | 30    | 15    | 3.0    | 22     | 300    |
| 145896          | 38   | 30     | --     | .20  | --    | 30    | 30    | 3.0    | 42     | 200    |
| 146343          | 40   | 70     | --     | .50  | --    | 50    | 30    | 3.0    | 30     | 500    |
| 146023          | 36   | 70     | --     | .50  | 15.04 | 50    | 30    | 3.0    | 38     | 300    |
| Douglas County  |      |        |        |      |       |       |       |        |        |        |
| 146172          | 39   | 70     | --     | .50  | 4.88  | 50    | 50    | 5.0    | 21     | 500    |
| 145942          | 38   | 30     | --     | .30  | --    | 30    | 30    | 3.0    | 25     | 300    |
| 146473          | 41   | 30     | --     | .30  | --    | 15    | 30    | 2.0    | 30     | 300    |
| 145828          | 42   | 30     | --     | .20  | --    | 20    | 20    | 2.0    | 53     | 150    |
| 145803          | 40   | 70     | --     | .70  | --    | 50    | 30    | 3.0    | 29     | 500    |
| 146237          | 40   | 30     | 4.31   | .20  | 2.26  | 20    | 15    | 1.5    | 20     | 150    |
| 146508          | 40   | 50     | --     | .30  | --    | 30    | 30    | 3.0    | 27     | 300    |
| 146304          | 38   | 100    | --     | .70  | --    | 100   | 30    | 5.0    | 35     | 500    |
| 146135          | 35   | 150    | --     | .70  | --    | 70    | 30    | 3.0    | 39     | 150    |
| 145778          | 41   | 30     | --     | .30  | --    | 20    | 20    | 2.0    | 33     | 200    |
| Dunklin County  |      |        |        |      |       |       |       |        |        |        |
| 145757          | 40   | 100    | --     | .15  | --    | 20    | 15    | 1.0    | 23     | 100    |
| 145794          | 39   | 150    | 3.42   | .30  | 1.24  | 30    | 15    | 1.5    | 27     | 200    |
| 145962          | 37   | 150    | --     | .15  | --    | 20    | <10   | 1.0    | 22     | 100    |
| 146106          | 33   | 100    | --     | .30  | --    | 70    | 30    | 3.0    | 33     | 200    |
| 145852          | 41   | 150    | 5.22   | .15  | 1.42  | 30    | 15    | 1.5    | 32     | 200    |
| 146025          | 36   | 150    | --     | .20  | --    | 50    | 20    | 2.0    | 28     | 500    |
| 146485          | 40   | 150    | --     | .15  | --    | 30    | 15    | 1.5    | 33     | 70     |
| 145488          | 38   | 150    | --     | .30  | --    | 30    | 30    | 3.0    | 33     | 300    |
| 146042          | 38   | 150    | --     | .15  | --    | 30    | 15    | 1.5    | 26     | 150    |
| 146289          | 38   | 150    | --     | .15  | --    | 30    | 15    | 1.5    | 31     | 100    |
| Franklin County |      |        |        |      |       |       |       |        |        |        |
| 146011          | 33   | 150    | --     | .30  | --    | 70    | 30    | 3.0    | 42     | 300    |
| 146300          | 35   | 150    | --     | .30  | --    | 150   | 50    | 3.0    | 42     | 500    |
| 146258          | 38   | 150    | 7.35   | .30  | 3.61  | 50    | 30    | 3.0    | 30     | 500    |
| 146024          | 36   | 70     | --     | .30  | --    | 50    | 30    | 3.0    | 28     | 500    |
| 146563          | 31   | 200    | --     | .30  | --    | 100   | 30    | 3.0    | 80     | 200    |
| 145696          | 37   | 100    | --     | .30  | --    | 50    | 30    | 3.0    | 59     | 500    |
| 145938          | 34   | 150    | --     | .50  | --    | 70    | 30    | 3.0    | 47     | 500    |
| 145790          | 39   | 150    | --     | .30  | --    | 70    | 30    | 3.0    | 43     | 500    |
| 146463          | 37   | 150    | --     | .30  | --    | 70    | 30    | 3.0    | 40     | 300    |
| 145922          | 34   | 100    | --     | .30  | --    | 70    | 30    | 3.0    | 73     | 300    |

Table 3.--Locations and concentrations of frequently detected elements for agricultural soils of Missouri--continued

| Sample           | Latitude | Longitude | Al % | As ppm | B ppm | Ba ppm | Be ppm | C %  | C org. % | C crb. % | Ca % |
|------------------|----------|-----------|------|--------|-------|--------|--------|------|----------|----------|------|
| Gasconade County |          |           |      |        |       |        |        |      |          |          |      |
| 145870           | 38 38 31 | 91 25 30  | 4    | 7.8    | 30    | 700    | N      | 1.02 | 1.0      | .02      | .4   |
| 145638           | 38 37 1  | 91 36 28  | 4    | 6.5    | 30    | 700    | 1.0    | .87  | .8       | .03      | .3   |
| 146514           | 38 34 30 | 91 32 13  | 4    | 6.5    | 20    | 700    | N      | 1.01 | 1.0      | .04      | .4   |
| 146112           | 38 32 31 | 91 28 1   | 4    | 18.0   | 30    | 700    | 1.0    | .77  | .8       | <.01     | .3   |
| 146060           | 38 28 58 | 91 24 28  | 4    | 9.2    | 30    | 700    | 1.0    | .97  | 1.0      | .02      | .2   |
| 145471           | 38 28 15 | 91 37 15  | 4    | 6.6    | 50    | 700    | <1.0   | 1.07 | 1.0      | .07      | .3   |
| 146479           | 38 20 13 | 91 31 58  | 4    | 12.0   | 30    | 700    | <1.0   | 1.35 | 1.3      | .03      | .4   |
| 145881           | 38 23 31 | 91 23 16  | 5    | 15.0   | 30    | 700    | 1.0    | 1.40 | 1.4      | .02      | .3   |
| 145804           | 38 15 28 | 91 29 31  | 3    | 7.1    | 30    | 700    | <1.0   | 1.79 | 1.7      | .05      | .2   |
| 146429           | 38 10 30 | 91 35 27  | 4    | 7.7    | 30    | 500    | 1.0    | .95  | .9       | .06      | .2   |
| Gentry County    |          |           |      |        |       |        |        |      |          |          |      |
| 145416           | 40 22 30 | 94 14 31  | 6    | 15.0   | 30    | 700    | 1.0    | 1.32 | 1.2      | .10      | .4   |
| 146428           | 40 16 15 | 94 25 58  | 6    | 14.0   | 30    | 700    | 1.0    | 1.53 | 1.5      | .02      | .5   |
| 145802           | 40 9 28  | 94 34 1   | 5    | 8.9    | 30    | 700    | <1.0   | 1.80 | 1.8      | .03      | .6   |
| 146276           | 40 10 58 | 94 24 0   | 5    | 9.6    | 30    | 700    | 1.5    | 2.72 | 2.7      | <.01     | .5   |
| 146375           | 40 15 0  | 94 20 31  | 5    | 11.0   | 30    | 700    | 1.0    | 2.50 | 2.5      | .02      | .6   |
| 145658           | 40 20 45 | 94 17 31  | 4    | 7.8    | 30    | 700    | 1.0    | 2.82 | 2.8      | .07      | .4   |
| 146215           | 40 17 31 | 94 26 31  | 4    | 5.8    | 30    | 300    | N      | 1.21 | 1.2      | .01      | .4   |
| 146453           | 40 22 58 | 94 18 0   | 5    | 12.0   | 20    | 700    | 1.0    | 1.85 | 1.8      | .05      | .6   |
| 145631           | 40 6 14  | 94 21 28  | 5    | 10.0   | 30    | 500    | 1.0    | .64  | .6       | .06      | .2   |
| 145515           | 40 13 58 | 94 24 28  | 5    | 11.0   | 50    | 700    | 1.0    | 1.92 | 1.8      | .07      | .6   |
| Greene County    |          |           |      |        |       |        |        |      |          |          |      |
| 145519           | 37 13 44 | 93 24 14  | 4    | 6.5    | 30    | 700    | 1.0    | 1.67 | 1.6      | .08      | .4   |
| 145968           | 37 18 0  | 93 30 57  | 3    | 7.6    | 30    | 700    | 1.0    | 1.73 | 1.7      | .01      | .3   |
| 146604           | 37 19 15 | 93 15 0   | 4    | 7.0    | 30    | 700    | N      | 1.06 | 1.0      | .02      | .2   |
| 145566           | 37 6 0   | 93 30 28  | 3    | 5.8    | 50    | 700    | 1.0    | 1.36 | 1.3      | .08      | .3   |
| 145662           | 37 9 43  | 93 5 45   | 3    | 8.2    | 30    | 700    | 1.0    | 1.33 | 1.2      | .11      | .2   |
| 146037           | 37 24 28 | 93 11 31  | 3    | 6.1    | 30    | 500    | <1.0   | 1.06 | 1.0      | .05      | .4   |
| 145889           | 37 10 58 | 93 27 0   | 3    | 6.4    | 30    | 700    | N      | 1.48 | 1.4      | .08      | .6   |
| 145544           | 37 25 1  | 93 34 1   | 4    | 9.1    | 50    | 500    | <1.0   | 1.49 | 1.4      | .11      | .4   |
| 145823           | 37 19 30 | 93 6 0    | 3    | 5.8    | 50    | 500    | <1.0   | 1.14 | 1.0      | .07      | .3   |
| 146323           | 37 6 0   | 93 18 28  | 3    | 4.8    | 70    | 700    | 1.0    | 1.31 | 1.2      | .06      | .4   |
| Grundy County    |          |           |      |        |       |        |        |      |          |          |      |
| 146518           | 40 10 58 | 93 42 0   | 7    | 15.0   | <20   | 700    | <1.0   | 2.77 | 2.7      | .03      | .6   |
| 145646           | 40 13 1  | 93 31 58  | 5    | 11.0   | 30    | 700    | 1.0    | 2.07 | 2.0      | .10      | .6   |
| 145925           | 40 12 0  | 93 25 58  | 5    | 12.0   | 30    | 700    | <1.0   | 1.66 | 1.6      | .01      | .6   |
| 145726           | 40 7 58  | 93 25 58  | 5    | 7.3    | 30    | 700    | <1.0   | 1.44 | 1.3      | .10      | .5   |
| 145792           | 40 7 58  | 93 31 58  | 5    | 17.0   | 30    | 700    | 1.0    | 1.68 | 1.7      | <.01     | .6   |
| 145582           | 40 4 1   | 93 42 0   | 1    | 12.0   | 30    | 700    | 1.0    | 2.02 | 1.9      | .13      | .1   |
| 145837           | 40 3 0   | 93 33 0   | 5    | 14.0   | 30    | 700    | 1.5    | 2.01 | 2.0      | .02      | .5   |
| 145921           | 40 3 0   | 93 25 58  | 4    | 10.0   | 30    | 700    | 1.0    | 2.39 | 2.4      | <.01     | .4   |
| 145503           | 39 58 58 | 93 27 0   | 6    | 15.0   | 50    | 700    | 1.0    | 1.83 | 1.8      | .05      | .6   |
| 145928           | 39 58 58 | 93 40 1   | 4    | 7.0    | 30    | 700    | <1.0   | 1.42 | 1.4      | <.01     | .5   |

Table 3.--Locations and concentrations of frequently detected elements for agricultural soils of Missouri--continued

| Sample           | Ce ppm | Co ppm | Cr ppm | Cu ppm | F%   | Fe % | Ga ppm | Hg ppm | I ppm | K % | La ppm |
|------------------|--------|--------|--------|--------|------|------|--------|--------|-------|-----|--------|
| Gasconade County |        |        |        |        |      |      |        |        |       |     |        |
| 145870           | <150   | 15     | 70     | 7      | .027 | 2.2  | 15     | .04    | --    | 1.8 | 30     |
| 145638           | <150   | 10     | 50     | 10     | .022 | 1.6  | 10     | .10    | 4.32  | 1.8 | 50     |
| 146514           | <150   | 10     | 50     | 10     | .029 | 1.4  | 7      | <.01   | --    | 1.7 | 50     |
| 146112           | <150   | 15     | 70     | 15     | .034 | 3.1  | 20     | .04    | --    | 1.4 | 50     |
| 146060           | 150    | 15     | 70     | 15     | .022 | 2.0  | 15     | .04    | --    | 1.6 | 50     |
| 145471           | <150   | 15     | 70     | 10     | .031 | 1.6  | 7      | .05    | --    | 1.9 | 30     |
| 146479           | <150   | 7      | 50     | 7      | .013 | 2.4  | 15     | .03    | --    | 1.2 | 30     |
| 145881           | <150   | 15     | 70     | 15     | .024 | 2.9  | 15     | .05    | --    | 1.3 | 50     |
| 145804           | <150   | 15     | 50     | 15     | .010 | 1.9  | 10     | .07    | --    | 1.5 | 70     |
| 146429           | <150   | 10     | 70     | 10     | .010 | 1.8  | 10     | .02    | --    | 1.4 | 30     |
| Gentry County    |        |        |        |        |      |      |        |        |       |     |        |
| 145416           | 150    | 15     | 70     | 15     | .130 | 2.7  | 15     | .06    | --    | 1.8 | 50     |
| 146428           | 150    | 15     | 70     | 20     | .064 | 3.3  | 15     | .04    | --    | 1.7 | 50     |
| 145802           | <150   | 7      | 70     | 15     | .023 | 2.3  | 15     | .02    | --    | 1.4 | 50     |
| 146276           | 150    | 15     | 70     | 20     | .025 | 2.1  | 15     | .06    | --    | 1.8 | 70     |
| 146375           | <150   | 10     | 50     | 15     | .050 | 2.4  | 15     | .06    | --    | 2.0 | 30     |
| 145658           | <150   | 7      | 50     | 10     | .042 | 1.7  | 7      | .12    | --    | 1.4 | 30     |
| 146215           | 150    | 7      | 70     | 10     | .016 | 1.6  | 15     | .04    | --    | 1.2 | 30     |
| 146453           | 150    | 10     | 70     | 20     | .031 | 2.4  | 15     | .06    | --    | 1.8 | 50     |
| 145631           | <150   | 10     | 70     | 15     | .027 | 2.4  | 10     | .16    | --    | 1.2 | 30     |
| 145515           | <150   | 15     | 70     | 15     | .130 | 2.4  | 15     | .04    | 5.07  | 1.9 | 50     |
| Greene County    |        |        |        |        |      |      |        |        |       |     |        |
| 145519           | 150    | 10     | 70     | 15     | .190 | 1.9  | 15     | .04    | --    | 1.5 | 70     |
| 145968           | <150   | 15     | 70     | 20     | .016 | 2.2  | 10     | .03    | --    | 1.0 | 50     |
| 146604           | 150    | 15     | 70     | 15     | .022 | 1.8  | 10     | .03    | --    | 1.5 | 50     |
| 145566           | <150   | 15     | 50     | 10     | .130 | 1.5  | 7      | .04    | --    | 1.2 | 70     |
| 145662           | 150    | 15     | 70     | 7      | .046 | 2.1  | 10     | .02    | --    | 1.2 | 70     |
| 146037           | <150   | 20     | 70     | 10     | .370 | 2.0  | 7      | .02    | --    | 1.4 | 50     |
| 145889           | <150   | 15     | 50     | 10     | .018 | 1.8  | 7      | .04    | --    | 1.2 | 30     |
| 145544           | 150    | 15     | 70     | 15     | .160 | 2.2  | 10     | .04    | --    | 1.2 | 70     |
| 145823           | <150   | 10     | 70     | 15     | .014 | 1.7  | 7      | .03    | --    | 1.3 | 30     |
| 146323           | 150    | 7      | 70     | 10     | .017 | 1.3  | 10     | .03    | 6.23  | 1.5 | 50     |
| Grundy County    |        |        |        |        |      |      |        |        |       |     |        |
| 146518           | <150   | 7      | 50     | 20     | .025 | 3.8  | 15     | .04    | --    | 1.7 | 70     |
| 145646           | <150   | 10     | 70     | 15     | .032 | 2.2  | 15     | .06    | --    | 1.4 | 70     |
| 145925           | <150   | 10     | 70     | 15     | .032 | 2.7  | 15     | .03    | --    | 1.5 | 30     |
| 145726           | <150   | 10     | 50     | 15     | .025 | 2.4  | 15     | .03    | --    | 1.3 | 30     |
| 145792           | <150   | 15     | 70     | 20     | .036 | 3.1  | 15     | .03    | 4.42  | 1.7 | 50     |
| 145582           | 150    | 10     | 70     | 15     | .092 | 1.2  | 15     | .02    | --    | .6  | 70     |
| 145837           | <150   | 7      | 70     | 15     | .024 | 2.7  | 15     | .02    | --    | 1.7 | 50     |
| 145921           | <150   | 7      | 70     | 15     | .028 | 2.3  | 15     | .07    | --    | 1.6 | 30     |
| 145503           | 150    | 15     | 70     | 15     | .092 | 2.6  | 15     | .05    | --    | 1.7 | 50     |
| 145928           | 150    | 7      | 70     | 15     | .026 | 2.0  | 15     | .02    | --    | 1.7 | 70     |

Table 3.--Locations and concentrations of frequently detected elements for agricultural soils of Missouri--continued

| Sample           | Li ppm | Mg % | Mn ppm | Na % | Nb ppm | Nd ppm | Ni ppm | P % | Pb ppm | Sc ppm | Se ppm |
|------------------|--------|------|--------|------|--------|--------|--------|-----|--------|--------|--------|
| Gasconade County |        |      |        |      |        |        |        |     |        |        |        |
| 145870           | 20     | .32  | 1,000  | .74  | <10    | <70    | 15     | .08 | 30     | 7      | <.1    |
| 145638           | 20     | .27  | 1,500  | .74  | <10    | 70     | 10     | .04 | 15     | 7      | .4     |
| 146514           | 18     | .22  | 1,500  | .54  | <10    | 70     | 15     | .04 | 15     | 7      | .2     |
| 146112           | 29     | .49  | 1,000  | .64  | <10    | 70     | 15     | .04 | 20     | 10     | .6     |
| 146060           | 23     | .28  | 1,000  | .63  | 10     | 70     | 15     | .04 | 30     | 7      | .2     |
| 145471           | 20     | .23  | 1,500  | .55  | <10    | 70     | 15     | .07 | 15     | 7      | .4     |
| 146479           | 23     | .26  | 1,000  | .64  | 10     | <70    | 7      | .09 | 20     | 7      | .5     |
| 145881           | 28     | .37  | 1,000  | .60  | <10    | 70     | 15     | .05 | 30     | 10     | .6     |
| 145804           | 23     | .24  | 1,500  | .53  | 10     | 70     | 15     | .06 | 15     | 7      | .1     |
| 146429           | 21     | .27  | 700    | .52  | <10    | 70     | 10     | .04 | 15     | 7      | .8     |
| Gentry County    |        |      |        |      |        |        |        |     |        |        |        |
| 145416           | 24     | .45  | 1,000  | .78  | <10    | 70     | 15     | .07 | 20     | 7      | .9     |
| 146428           | 31     | .66  | 700    | .63  | <10    | 70     | 30     | .04 | 20     | 15     | .7     |
| 145802           | 26     | .32  | 500    | .65  | 10     | 70     | 20     | .06 | 15     | 10     | .7     |
| 146276           | 26     | .42  | 1,500  | .79  | <10    | 70     | 15     | .09 | 20     | 10     | .2     |
| 146375           | 25     | .18  | 700    | .58  | <10    | 70     | 15     | .09 | 15     | 7      | .6     |
| 145658           | 23     | .23  | 500    | .57  | <10    | 70     | 15     | .06 | 20     | 7      | .3     |
| 146215           | 22     | .22  | 500    | .50  | <10    | <70    | 10     | .09 | 20     | 7      | .2     |
| 146453           | 23     | .41  | 1,000  | .79  | <10    | 70     | 15     | .13 | 30     | 10     | .4     |
| 145631           | 30     | .33  | 300    | .39  | <10    | 70     | 15     | .03 | 15     | 7      | .4     |
| 145515           | 22     | .45  | 1,000  | .78  | <10    | 70     | 30     | .03 | 20     | 10     | .5     |
| Greene County    |        |      |        |      |        |        |        |     |        |        |        |
| 145519           | 25     | .14  | 700    | .30  | 10     | 70     | 20     | .06 | 20     | 10     | .4     |
| 145968           | 22     | .17  | 1,000  | .27  | 10     | 70     | 10     | .09 | 20     | 7      | <.1    |
| 146604           | 24     | .19  | 1,500  | .34  | 10     | 70     | 15     | .04 | 20     | 7      | .7     |
| 145566           | 21     | .14  | 1,000  | .28  | 15     | 70     | 7      | .07 | 15     | 7      | .4     |
| 145662           | 21     | .15  | 1,500  | .30  | 10     | 70     | 10     | .06 | 30     | 7      | .5     |
| 146037           | 22     | .16  | 1,500  | .29  | 10     | <70    | 15     | .09 | 15     | 7      | <.1    |
| 145889           | 22     | .16  | 1,000  | .25  | 10     | 70     | 10     | .07 | 15     | 7      | .1     |
| 145544           | 24     | .20  | 1,500  | .27  | 15     | 70     | 15     | .07 | 30     | 7      | .4     |
| 145823           | 19     | .16  | 1,000  | .27  | 10     | <70    | 15     | .03 | 15     | 7      | .1     |
| 146323           | 17     | .17  | 1,000  | .25  | 10     | 70     | 15     | .09 | 20     | 7      | .1     |
| Grundy County    |        |      |        |      |        |        |        |     |        |        |        |
| 146518           | 42     | .60  | 1,500  | .44  | <10    | 70     | 20     | .13 | 15     | 10     | 1.2    |
| 145646           | 23     | .31  | 300    | .67  | <10    | 70     | 15     | .07 | 20     | 7      | .6     |
| 145925           | 27     | .39  | 500    | .57  | <10    | <70    | 15     | .09 | 20     | 7      | .4     |
| 145726           | 23     | .34  | 1,000  | .60  | <10    | 70     | 20     | .04 | 15     | 10     | .6     |
| 145792           | 27     | .46  | 1,500  | .73  | <10    | 70     | 15     | .07 | 30     | 10     | 1.2    |
| 145582           | 24     | .40  | 1,000  | .82  | 10     | 70     | 20     | .08 | 30     | 10     | 1.2    |
| 145837           | 23     | .34  | 700    | .79  | <10    | <70    | 15     | .06 | 20     | 10     | .6     |
| 145921           | 27     | .34  | 700    | .57  | 10     | 70     | 20     | .13 | 15     | 7      | .2     |
| 145503           | 25     | .40  | 1,000  | .68  | 10     | 70     | 15     | .07 | 20     | 10     | 1.1    |
| 145928           | 24     | .30  | 500    | .70  | <10    | 70     | 15     | .09 | 15     | 7      | .2     |



Table 3.--Locations and concentrations of frequently detected elements for agricultural soils of Missouri--continued

| Sample           | Si % | Sr ppm | Th ppm | Ti % | U ppm | V ppm | Y ppm | Yb ppm | Zn ppm | Zr ppm |
|------------------|------|--------|--------|------|-------|-------|-------|--------|--------|--------|
| Gasconade County |      |        |        |      |       |       |       |        |        |        |
| 145870           | 36   | 150    | --     | .30  | --    | 70    | 30    | 3.0    | 46     | 300    |
| 145638           | 36   | 150    | --     | .30  | --    | 70    | 30    | 3.0    | 40     | 300    |
| 146514           | 38   | 100    | --     | .30  | --    | 50    | 30    | 3.0    | 31     | 500    |
| 146112           | 32   | 150    | --     | .30  | --    | 50    | 30    | 3.0    | 62     | 200    |
| 146060           | 37   | 100    | --     | .50  | --    | 70    | 30    | 3.0    | 43     | 500    |
| 145471           | 36   | 100    | --     | .30  | --    | 70    | 30    | 3.0    | 40     | 500    |
| 146479           | 35   | 150    | 10.51  | .30  | 4.52  | 70    | 30    | 3.0    | 45     | 300    |
| 145881           | 35   | 150    | --     | .50  | --    | 100   | 30    | 3.0    | 52     | 300    |
| 145804           | 38   | 150    | 10.17  | .70  | 3.72  | 70    | 30    | 3.0    | 45     | 500    |
| 146429           | 36   | 150    | --     | .30  | --    | 70    | 30    | 3.0    | 32     | 500    |
| Gentry County    |      |        |        |      |       |       |       |        |        |        |
| 145416           | 34   | 150    | 8.32   | .30  | 4.02  | 100   | 30    | 3.0    | 65     | 300    |
| 146428           | 30   | 150    | --     | .30  | --    | 150   | 30    | 3.0    | 86     | 300    |
| 145802           | 36   | 150    | --     | .30  | --    | 100   | 30    | 3.0    | 46     | 300    |
| 146276           | 32   | 200    | --     | .30  | --    | 70    | 30    | 3.0    | 62     | 300    |
| 146375           | 32   | 150    | --     | .30  | --    | 70    | 30    | 3.0    | 78     | 300    |
| 145658           | 35   | 150    | --     | .30  | --    | 70    | 30    | 3.0    | 45     | 200    |
| 146215           | 36   | 100    | --     | .30  | --    | 70    | 30    | 3.0    | 36     | 500    |
| 146453           | 34   | 300    | 10.10  | .50  | 3.87  | 100   | 50    | 3.0    | 93     | 300    |
| 145631           | 34   | 100    | --     | .30  | --    | 70    | 30    | 3.0    | 46     | 300    |
| 145515           | 32   | 150    | --     | .30  | --    | 100   | 50    | 5.0    | 70     | 500    |
| Greene County    |      |        |        |      |       |       |       |        |        |        |
| 145519           | 35   | 100    | --     | .50  | --    | 70    | 50    | 5.0    | 44     | 300    |
| 145968           | 34   | 70     | --     | .50  | --    | 70    | 50    | 5.0    | 31     | 700    |
| 146604           | 42   | 70     | 7.24   | .30  | 5.01  | 70    | 30    | 3.0    | 30     | 500    |
| 145566           | 37   | 70     | --     | .50  | --    | 70    | 50    | 3.0    | 28     | 700    |
| 145662           | 38   | 70     | --     | .50  | --    | 70    | 50    | 5.0    | 36     | 500    |
| 146037           | 34   | 70     | --     | .50  | --    | 70    | 30    | 3.0    | 29     | 500    |
| 145889           | 38   | 70     | --     | .70  | --    | 70    | 30    | 3.0    | 40     | 700    |
| 145544           | 36   | 70     | 13.25  | .50  | 4.57  | 70    | 50    | 5.0    | 53     | 300    |
| 145823           | 39   | 70     | --     | .30  | --    | 50    | 30    | 3.0    | 29     | 500    |
| 146323           | 38   | 70     | --     | .30  | --    | 70    | 50    | 5.0    | 53     | 300    |
| Grundy County    |      |        |        |      |       |       |       |        |        |        |
| 146518           | 28   | 150    | --     | .30  | --    | 100   | 30    | 3.0    | 100    | 70     |
| 145646           | 33   | 150    | 8.78   | .30  | 3.89  | 100   | 30    | 3.0    | 50     | 300    |
| 145925           | 32   | 150    | --     | .30  | --    | 70    | 20    | 2.0    | 54     | 200    |
| 145726           | 35   | 150    | --     | .30  | --    | 70    | 30    | 3.0    | 52     | 300    |
| 145792           | 33   | 150    | --     | .50  | --    | 150   | 30    | 3.0    | 65     | 300    |
| 145582           | 42   | 150    | --     | .30  | --    | 100   | 30    | 3.0    | 50     | 300    |
| 145837           | 34   | 150    | --     | .50  | --    | 70    | 30    | 3.0    | 54     | 500    |
| 145921           | 31   | 150    | --     | .30  | --    | 70    | 30    | 3.0    | 56     | 300    |
| 145503           | 32   | 150    | 13.57  | .50  | 4.21  | 100   | 50    | 3.0    | 62     | 300    |
| 145928           | 34   | 150    | --     | .30  | --    | 70    | 30    | 3.0    | 53     | 300    |



Table 3.--Locations and concentrations of frequently detected elements for agricultural soils of Missouri--continued

| Sample          | Latitude | Longitude | Al % | As ppm | B ppm | Ba ppm | Be ppm | C %  | C org. % | C crb. % | Ca % |
|-----------------|----------|-----------|------|--------|-------|--------|--------|------|----------|----------|------|
| Harrison County |          |           |      |        |       |        |        |      |          |          |      |
| 146254          | 40 31 1  | 93 58 30  | 5    | 8.9    | 30    | 700    | <1.0   | 2.02 | 2.0      | .03      | .6   |
| 146340          | 40 24 0  | 94 0 28   | 5    | 13.0   | 30    | 700    | 1.0    | 2.88 | 2.9      | <.01     | .5   |
| 146423          | 40 19 1  | 94 10 30  | 5    | 9.2    | 20    | 700    | 1.0    | 2.14 | 2.0      | .13      | 1.0  |
| 146232          | 40 19 1  | 94 1 1    | 5    | 12.0   | 30    | 700    | 1.0    | 1.91 | 1.9      | .02      | .4   |
| 145575          | 40 22 1  | 93 58 30  | 6    | 10.0   | 30    | 700    | 1.0    | 1.02 | 1.0      | .06      | .3   |
| 146236          | 40 16 58 | 94 0 43   | 5    | 9.9    | 30    | 700    | 1.0    | 1.78 | 1.8      | .01      | .6   |
| 146590          | 40 18 28 | 94 4 1    | 4    | 8.2    | 30    | 300    | <1.0   | 2.34 | 2.3      | .03      | .6   |
| 145559          | 40 11 31 | 94 4 30   | 7    | 13.0   | 30    | 700    | 1.0    | 1.86 | 1.8      | .08      | .5   |
| 146359          | 40 9 28  | 94 1 58   | 4    | 12.0   | 50    | 1,000  | 1.5    | 2.56 | 2.5      | .04      | .6   |
| 146018          | 40 9 0   | 94 6 28   | 5    | 7.4    | 30    | 500    | 1.0    | 1.74 | 1.7      | .04      | .6   |
| Henry County    |          |           |      |        |       |        |        |      |          |          |      |
| 146584          | 38 26 31 | 93 31 30  | 4    | 12.0   | 30    | 500    | <1.0   | 1.30 | 1.3      | .03      | .4   |
| 146393          | 38 30 28 | 93 42 0   | 5    | 16.0   | 30    | 700    | 1.0    | 1.64 | 1.6      | .05      | .5   |
| 145971          | 38 33 28 | 93 46 58  | 5    | 13.0   | 30    | 700    | 1.0    | 2.20 | 2.2      | .05      | .6   |
| 145618          | 38 32 31 | 93 51 28  | 5    | 9.3    | 30    | 700    | 1.0    | 2.02 | 2.0      | .03      | .4   |
| 145425          | 38 31 1  | 93 58 58  | 5    | 11.0   | 30    | 500    | 1.5    | 1.46 | 1.4      | .05      | .3   |
| 146090          | 38 24 0  | 93 58 1   | 4    | 12.0   | 30    | 700    | 1.0    | 1.52 | 1.5      | .02      | .4   |
| 145672          | 38 22 30 | 93 53 31  | 4    | 8.1    | 30    | 500    | 1.0    | 1.96 | 2.0      | <.01     | .5   |
| 145932          | 38 23 31 | 93 42 28  | 4    | 11.0   | 30    | 700    | 1.0    | 1.55 | 1.5      | .03      | .4   |
| 146555          | 38 19 30 | 93 37 58  | 4    | 10.0   | 30    | 500    | <1.0   | 1.39 | 1.3      | .06      | .4   |
| 146113          | 38 15 14 | 93 52 1   | 5    | 10.0   | 30    | 700    | <1.0   | 1.31 | 1.3      | .04      | .4   |
| Hickory County  |          |           |      |        |       |        |        |      |          |          |      |
| 145795          | 37 49 58 | 93 17 27  | 3    | 7.6    | 30    | 500    | N      | .79  | .8       | .03      | <.1  |
| 145948          | 37 52 58 | 93 13 30  | 3    | 5.9    | 50    | 700    | <1.0   | 1.06 | 1.0      | .04      | .3   |
| 145937          | 37 55 1  | 93 10 30  | 3    | 9.6    | 30    | 700    | N      | 2.07 | 2.1      | <.01     | .3   |
| 145579          | 38 1 1   | 93 6 0    | 3    | 4.3    | 50    | 700    | N      | 1.22 | 1.2      | .01      | .1   |
| 145480          | 37 58 30 | 93 14 31  | 3    | 8.3    | 30    | 500    | N      | .85  | .8       | .05      | .1   |
| 145882          | 37 58 1  | 93 19 58  | 3    | 6.5    | 50    | 700    | 1.0    | 1.17 | 1.1      | .03      | .3   |
| 145961          | 37 59 31 | 93 27 28  | 3    | 11.0   | 30    | 500    | N      | 1.34 | 1.3      | <.01     | .3   |
| 145908          | 37 49 58 | 93 32 31  | 4    | 13.0   | 30    | 500    | N      | 1.60 | 1.6      | .04      | .3   |
| 145469          | 37 52 58 | 93 22 58  | 5    | 15.0   | 30    | 700    | 1.0    | 2.33 | 2.2      | .10      | .4   |
| 145796          | 37 55 1  | 93 19 30  | 4    | 7.8    | 30    | 700    | N      | 3.10 | 3.1      | .02      | .4   |
| Holt County     |          |           |      |        |       |        |        |      |          |          |      |
| 146169          | 40 15 0  | 95 23 31  | 6    | 12.0   | 30    | 700    | 1.0    | 1.33 | 1.3      | .01      | .6   |
| 146344          | 40 12 14 | 95 22 15  | 5    | 7.6    | 50    | 700    | 1.0    | 1.10 | 1.1      | <.01     | .6   |
| 146591          | 40 10 30 | 95 10 30  | 6    | 11.0   | 30    | 700    | <1.0   | 1.69 | 1.7      | .02      | .5   |
| 145561          | 40 10 15 | 95 24 14  | 7    | 9.4    | 50    | 1,000  | 1.5    | 1.82 | 1.8      | .07      | .9   |
| 145599          | 40 9 28  | 95 18 0   | 4    | 7.4    | 30    | 700    | <1.0   | 1.86 | 1.8      | .09      | .6   |
| 146089          | 40 5 31  | 95 12 14  | 4    | 5.6    | 20    | 700    | N      | .58  | .4       | .15      | 1.1  |
| 145601          | 40 3 0   | 95 6 0    | 6    | 10.0   | 30    | 1,000  | 1.5    | 1.96 | 1.8      | .19      | 1.1  |
| 146449          | 39 55 58 | 95 7 1    | 6    | 13.0   | 30    | 1,000  | 1.0    | 1.22 | 1.2      | .04      | .6   |
| 145733          | 39 54 0  | 95 4 58   | 5    | 6.3    | 30    | 700    | N      | 1.80 | 1.8      | <.01     | .9   |
| 146187          | 39 54 43 | 95 0 0    | 6    | 10.0   | 30    | 700    | <1.0   | 1.67 | 1.7      | .01      | .9   |

Table 3.--Locations and concentrations of frequently detected elements for agricultural soils of Missouri--continued

| Sample          | Ce ppm | Co ppm | Cr ppm | Cu ppm | F%   | Fe % | Ga ppm | Hg ppm | I ppm | K % | La ppm |
|-----------------|--------|--------|--------|--------|------|------|--------|--------|-------|-----|--------|
| Harrison County |        |        |        |        |      |      |        |        |       |     |        |
| 146254          | 150    | 7      | 70     | 15     | .029 | 2.3  | 15     | .04    | --    | 1.2 | 50     |
| 146340          | 150    | 15     | 70     | 70     | .030 | 2.6  | 15     | .04    | --    | 1.8 | 70     |
| 146423          | <150   | 7      | 70     | 15     | .012 | 2.2  | 15     | .03    | --    | 1.4 | 50     |
| 146232          | <150   | 15     | 70     | 20     | .034 | 2.7  | 15     | .05    | 3.81  | 1.5 | 30     |
| 145575          | <150   | 15     | 70     | 15     | .074 | 3.2  | 20     | .05    | --    | 1.9 | 30     |
| 146236          | 150    | 10     | 70     | 15     | .033 | 2.3  | 15     | .05    | --    | 1.6 | 50     |
| 146590          | <150   | 7      | 50     | 10     | .021 | 2.0  | 15     | .06    | --    | 1.2 | 30     |
| 145559          | 150    | 15     | 70     | 30     | .140 | 3.1  | 20     | .08    | --    | 1.8 | 70     |
| 146359          | 150    | 15     | 70     | 15     | .021 | 2.4  | 15     | .04    | --    | 1.9 | 70     |
| 146018          | 150    | 10     | 70     | 20     | .032 | 2.6  | 15     | .04    | --    | 1.3 | 50     |
| Henry County    |        |        |        |        |      |      |        |        |       |     |        |
| 146584          | <150   | 10     | 70     | 10     | .023 | 2.2  | 10     | .06    | --    | 1.3 | 30     |
| 146393          | <150   | 10     | 70     | 15     | .036 | 2.9  | 15     | .03    | 6.05  | 1.5 | 30     |
| 145971          | <150   | 20     | 70     | 50     | .039 | 3.4  | 15     | .04    | --    | 1.6 | 50     |
| 145618          | 150    | 10     | 70     | 15     | .027 | 2.2  | 15     | .02    | --    | 1.7 | 70     |
| 145425          | 150    | 15     | 70     | 15     | .170 | 2.7  | 15     | .04    | --    | 1.3 | 70     |
| 146090          | 150    | 10     | 70     | 15     | .029 | 2.5  | 15     | .03    | --    | 1.2 | 70     |
| 145672          | N      | 7      | 50     | 15     | .074 | 2.3  | 15     | .07    | --    | 1.7 | 30     |
| 145932          | <150   | 15     | 70     | 15     | .023 | 3.1  | 15     | .03    | --    | 1.3 | 50     |
| 146555          | <150   | 7      | 50     | 7      | .027 | 2.0  | 10     | .01    | --    | 1.2 | 30     |
| 146113          | 150    | 10     | 70     | 7      | .016 | 2.0  | 15     | .04    | --    | 1.2 | 50     |
| Hickory County  |        |        |        |        |      |      |        |        |       |     |        |
| 145795          | <150   | 7      | 30     | 7      | .016 | 1.7  | 10     | .05    | --    | 1.2 | 50     |
| 145948          | <150   | 10     | 50     | 10     | .017 | 1.5  | 10     | .02    | --    | 1.5 | 50     |
| 145937          | 150    | 15     | 70     | 15     | .018 | 2.4  | 15     | .03    | --    | 1.0 | 50     |
| 145579          | 150    | 7      | 50     | 10     | .022 | 1.9  | 15     | .04    | --    | 1.2 | 70     |
| 145480          | <150   | 10     | 50     | 7      | .013 | 1.6  | 7      | .04    | 2.52  | 1.2 | 30     |
| 145882          | 150    | 3      | 50     | 7      | .015 | 1.7  | 10     | .03    | --    | 1.7 | 50     |
| 145961          | <150   | 7      | 70     | 20     | .018 | 2.4  | 15     | .02    | --    | .8  | 30     |
| 145908          | 150    | 15     | 70     | 7      | .020 | 3.3  | 10     | .03    | --    | 1.0 | 50     |
| 145469          | 150    | 20     | 50     | 30     | .020 | 3.1  | 15     | .07    | --    | 1.4 | 50     |
| 145796          | 150    | 20     | 70     | 15     | .034 | 3.2  | 15     | .05    | --    | 2.2 | 70     |
| Holt County     |        |        |        |        |      |      |        |        |       |     |        |
| 146169          | <150   | 15     | 70     | 20     | .036 | 2.8  | 15     | .04    | 3.13  | 1.7 | 50     |
| 146344          | 150    | 7      | 70     | 15     | .032 | 2.2  | 15     | .02    | --    | 1.8 | 70     |
| 146591          | <150   | 7      | 70     | 15     | .035 | 2.5  | 15     | .04    | --    | 2.0 | 50     |
| 145561          | 150    | 10     | 70     | 20     | .130 | 2.7  | 20     | .07    | --    | 2.1 | 70     |
| 145599          | 150    | 7      | 70     | 15     | .033 | 2.0  | 15     | .02    | --    | 1.8 | 50     |
| 146089          | <150   | 7      | 30     | 7      | .019 | 1.5  | 15     | .03    | --    | 1.5 | 30     |
| 145601          | <150   | 10     | 70     | 20     | .057 | 2.6  | 15     | .04    | --    | 2.0 | 30     |
| 146449          | <150   | 10     | 70     | 15     | .052 | 2.6  | 15     | .02    | --    | 1.9 | 50     |
| 145733          | <150   | 7      | 70     | 10     | .030 | 1.9  | 15     | .04    | --    | 2.2 | 30     |
| 146187          | 150    | 7      | 70     | 15     | .033 | 3.1  | 15     | .03    | --    | 1.4 | 30     |

Table 3.--Locations and concentrations of frequently detected elements for agricultural soils of Missouri--continued

| Sample          | Li ppm | Mg % | Mn ppm | Na % | Nb ppm | Nd ppm | Ni ppm | P %  | Pb ppm | Sc ppm | Se ppm |
|-----------------|--------|------|--------|------|--------|--------|--------|------|--------|--------|--------|
| Harrison County |        |      |        |      |        |        |        |      |        |        |        |
| 146254          | 28     | .25  | 300    | .56  | 10     | 70     | 15     | .04  | 15     | 10     | .2     |
| 146340          | 27     | .45  | 700    | .73  | 10     | 70     | 20     | .13  | 30     | 15     | .3     |
| 146423          | 28     | .32  | 300    | .59  | <10    | <70    | 20     | .04  | 15     | 7      | .7     |
| 146232          | 28     | .44  | 700    | .63  | <10    | <70    | 15     | .04  | 20     | 10     | .5     |
| 145575          | 35     | .40  | 300    | .38  | <10    | <70    | 15     | .03  | 30     | 10     | .4     |
| 146236          | 27     | .39  | 1,000  | .70  | <10    | 70     | 15     | .04  | 15     | 10     | .3     |
| 146590          | 26     | .30  | 500    | .60  | <10    | <70    | 15     | .17  | 20     | 7      | .7     |
| 145559          | 29     | .60  | 700    | .65  | 10     | 70     | 20     | .16  | 30     | 15     | .9     |
| 146359          | 25     | .41  | 1,000  | .74  | <10    | 70     | 15     | .09  | 20     | 10     | .8     |
| 146018          | 30     | .37  | 700    | .64  | 10     | 70     | 15     | .09  | 15     | 10     | <.1    |
| Henry County    |        |      |        |      |        |        |        |      |        |        |        |
| 146584          | 22     | .23  | 1,000  | .76  | 10     | 70     | 10     | .04  | 15     | 7      | .4     |
| 146393          | 24     | .33  | 1,000  | .70  | <10    | 70     | 10     | .09  | 20     | 7      | 2.7    |
| 145971          | 28     | .39  | 1,000  | .50  | <10    | 70     | 50     | .09  | 30     | 10     | 2.0    |
| 145618          | 23     | .34  | 700    | .62  | <10    | 70     | 15     | .10  | 20     | 10     | .7     |
| 145425          | 30     | .25  | 700    | .53  | <10    | 70     | 15     | .07  | 20     | 10     | .6     |
| 146090          | 27     | .28  | 700    | .55  | 10     | 70     | 20     | .04  | 30     | 7      | .9     |
| 145672          | 25     | .24  | 300    | .74  | <10    | 70     | 15     | .07  | 15     | 7      | 1.0    |
| 145932          | 25     | .22  | 1,500  | .47  | <10    | 70     | 20     | .09  | 30     | 7      | .2     |
| 146555          | 19     | .22  | 700    | .60  | <10    | <70    | 7      | .04  | 15     | 7      | .4     |
| 146113          | 19     | .24  | 1,000  | .74  | <10    | 70     | 7      | .04  | 15     | 7      | .4     |
| Hickory County  |        |      |        |      |        |        |        |      |        |        |        |
| 145795          | 24     | .21  | 300    | .36  | 15     | <70    | 10     | <.02 | 15     | 7      | .5     |
| 145948          | 20     | .19  | 1,000  | .37  | 10     | 70     | 15     | .04  | 15     | 7      | <.1    |
| 145937          | 21     | .21  | 1,000  | .32  | 10     | 70     | 15     | .04  | 30     | 7      | .1     |
| 145579          | 23     | .24  | 700    | .42  | 10     | 70     | 10     | .07  | 30     | 7      | .4     |
| 145480          | 23     | .22  | 500    | .33  | <10    | <70    | 7      | .04  | 20     | 7      | .4     |
| 145882          | 19     | .21  | 500    | .57  | <10    | <70    | 7      | .06  | 30     | 7      | .3     |
| 145961          | 18     | .19  | 700    | .45  | 10     | 70     | 7      | .04  | 20     | 7      | <.1    |
| 145908          | 24     | .22  | 1,000  | .37  | 10     | 70     | 15     | .04  | 50     | 7      | .3     |
| 145469          | 31     | .33  | 1,500  | .30  | <10    | 70     | 30     | .05  | 150    | 7      | .7     |
| 145796          | 30     | .34  | 1,500  | .24  | <10    | 70     | 30     | .08  | 30     | 10     | .5     |
| Holt County     |        |      |        |      |        |        |        |      |        |        |        |
| 146169          | 26     | .57  | 700    | .83  | <10    | 70     | 50     | .09  | 30     | 10     | <.1    |
| 146344          | 25     | .44  | 300    | .90  | <10    | 70     | 20     | .09  | 15     | 10     | .4     |
| 146591          | 29     | .52  | 700    | .79  | <10    | 70     | 15     | .09  | 30     | 7      | .6     |
| 145561          | 31     | .75  | 300    | .80  | <10    | 70     | 30     | .09  | 15     | 15     | .4     |
| 145599          | 20     | .40  | 500    | .93  | <10    | 70     | 15     | .14  | 15     | 7      | .4     |
| 146089          | 14     | .47  | 500    | 1.04 | <10    | 70     | 20     | .09  | 15     | 7      | <.1    |
| 145601          | 24     | .53  | 700    | .82  | <10    | 70     | 30     | .09  | 15     | 10     | .5     |
| 146449          | 26     | .49  | 500    | .81  | <10    | 70     | 30     | .09  | 15     | 10     | .5     |
| 145733          | 19     | .43  | 500    | 1.03 | <10    | <70    | 15     | .16  | 15     | 7      | <.1    |
| 146187          | 26     | .52  | 700    | .93  | <10    | 70     | 20     | .17  | 15     | 7      | .3     |

Table 3.--Locations and concentrations of frequently detected elements for agricultural soils of Missouri--continued

| Sample          | Si % | Sr ppm | Th ppm | Ti % | U ppm | V ppm | Y ppm | Yb ppm | Zn ppm | Zr ppm |
|-----------------|------|--------|--------|------|-------|-------|-------|--------|--------|--------|
| Harrison County |      |        |        |      |       |       |       |        |        |        |
| 146254          | 33   | 150    | 11.91  | .30  | 3.28  | 100   | 50    | 3.0    | 43     | 300    |
| 146340          | 32   | 200    | 12.74  | .30  | 3.46  | 150   | 50    | 3.0    | 103    | 300    |
| 146423          | 33   | 150    | --     | .30  | --    | 70    | 30    | 3.0    | 50     | 200    |
| 146232          | 31   | 150    | --     | .30  | --    | 100   | 30    | 3.0    | 55     | 300    |
| 145575          | 33   | 150    | --     | .30  | --    | 100   | 30    | 3.0    | 50     | 200    |
| 146236          | 34   | 150    | --     | .50  | --    | 70    | 30    | 5.0    | 50     | 300    |
| 146590          | 33   | 100    | --     | .30  | --    | 70    | 30    | 3.0    | 64     | 500    |
| 145559          | 31   | 150    | --     | .30  | --    | 150   | 50    | 3.0    | 97     | 300    |
| 146359          | 33   | 300    | --     | .50  | --    | 150   | 30    | 3.0    | 82     | 300    |
| 146018          | 31   | 150    | --     | .30  | --    | 100   | 30    | 3.0    | 45     | 200    |
| Henry County    |      |        |        |      |       |       |       |        |        |        |
| 146584          | 37   | 150    | --     | .30  | --    | 70    | 30    | 3.0    | 32     | 300    |
| 146393          | 32   | 150    | 7.96   | .30  | 4.96  | 70    | 30    | 3.0    | 62     | 150    |
| 145971          | 30   | 150    | --     | .50  | --    | 100   | 30    | 3.0    | 72     | 500    |
| 145618          | 35   | 150    | --     | .30  | --    | 70    | 50    | 3.0    | 54     | 300    |
| 145425          | 34   | 150    | --     | .50  | --    | 70    | 50    | 3.0    | 49     | 500    |
| 146090          | 33   | 70     | --     | .30  | --    | 100   | 30    | 3.0    | 53     | 300    |
| 145672          | 35   | 150    | --     | .30  | --    | 70    | 30    | 3.0    | 50     | 200    |
| 145932          | 33   | 150    | --     | .30  | --    | 70    | 30    | 3.0    | 43     | 300    |
| 146555          | 35   | 150    | 8.93   | .30  | 4.02  | 70    | 30    | 3.0    | 36     | 300    |
| 146113          | 37   | 150    | --     | .30  | --    | 70    | 50    | 5.0    | 34     | 300    |
| Hickory County  |      |        |        |      |       |       |       |        |        |        |
| 145795          | 39   | 70     | --     | .50  | --    | 70    | 30    | 3.0    | 38     | 500    |
| 145948          | 35   | 100    | --     | .50  | --    | 70    | 50    | 5.0    | 28     | 500    |
| 145937          | 34   | 100    | --     | .30  | --    | 70    | 50    | 5.0    | 32     | 700    |
| 145579          | 38   | 100    | --     | .50  | --    | 70    | 30    | 3.0    | 54     | 500    |
| 145480          | 38   | 70     | --     | .30  | --    | 50    | 30    | 3.0    | 31     | 500    |
| 145882          | 38   | 100    | --     | .30  | --    | 70    | 30    | 3.0    | 44     | 300    |
| 145961          | 34   | 70     | --     | .30  | 7.38  | 70    | 30    | 3.0    | 31     | 500    |
| 145908          | 33   | 70     | --     | .50  | --    | 70    | 50    | 5.0    | 36     | 500    |
| 145469          | 33   | 70     | --     | .30  | --    | 70    | 50    | 3.0    | 250    | 300    |
| 145796          | 34   | 150    | 11.36  | .30  | 3.65  | 100   | 30    | 3.0    | 45     | 300    |
| Holt County     |      |        |        |      |       |       |       |        |        |        |
| 146169          | 33   | 200    | --     | .30  | --    | 100   | 30    | 3.0    | 69     | 300    |
| 146344          | 34   | 300    | --     | .30  | --    | 100   | 50    | 3.0    | 57     | 500    |
| 146591          | 32   | 150    | 9.82   | .30  | 3.60  | 70    | 30    | 3.0    | 68     | 500    |
| 145561          | 29   | 200    | 13.53  | .30  | 3.33  | 150   | 30    | 3.0    | 85     | 300    |
| 145599          | 35   | 150    | --     | .30  | --    | 70    | 30    | 3.0    | 58     | 500    |
| 146089          | 33   | 100    | --     | .20  | --    | 50    | 20    | 2.0    | 35     | 150    |
| 145601          | 32   | 150    | --     | .30  | --    | 70    | 30    | 3.0    | 75     | 300    |
| 146449          | 34   | 200    | --     | .20  | --    | 70    | 30    | 3.0    | 72     | 200    |
| 145733          | 35   | 200    | --     | .30  | --    | 70    | 30    | 3.0    | 81     | 300    |
| 146187          | 29   | 200    | 6.18   | .30  | 3.91  | 70    | 50    | 3.0    | 92     | 500    |

Table 3.--Locations and concentrations of frequently detected elements for agricultural soils of Missouri--continued

| Sample         | Latitude | Longitude | Al % | As ppm | B ppm | Ba ppm | Be ppm | C %  | C org. % | C crb. % | Ca % |
|----------------|----------|-----------|------|--------|-------|--------|--------|------|----------|----------|------|
| Howard County  |          |           |      |        |       |        |        |      |          |          |      |
| 146416         | 39 9 28  | 92 33 0   | 5    | 9.5    | 30    | 700    | 1.0    | 1.62 | 1.5      | .09      | .6   |
| 145701         | 39 12 28 | 92 29 31  | 6    | 9.4    | 30    | 700    | 1.0    | 1.85 | 1.8      | .04      | .4   |
| 146513         | 39 16 1  | 92 48 46  | 5    | 12.0   | 30    | 700    | N      | 1.19 | 1.2      | .02      | .4   |
| 146337         | 39 2 31  | 92 45 28  | 5    | 11.0   | 50    | 700    | 1.0    | 1.42 | 1.4      | <.01     | .4   |
| 146544         | 39 13 30 | 92 47 31  | 5    | 13.0   | 30    | 700    | 1.0    | 1.17 | 1.1      | .04      | .5   |
| 146140         | 39 9 43  | 92 31 1   | 5    | 7.6    | 30    | 700    | 1.0    | .81  | .8       | .01      | .5   |
| 145580         | 39 19 1  | 92 41 31  | 5    | 14.0   | 50    | 700    | 1.5    | 1.10 | 1.0      | .08      | .4   |
| 145815         | 39 12 14 | 92 33 43  | 4    | 10.0   | 30    | 300    | 1.0    | .75  | .7       | .05      | .2   |
| 145950         | 39 7 30  | 92 37 1   | 4    | 8.3    | 30    | 700    | <1.0   | 1.26 | 1.2      | .20      | .4   |
| 145931         | 39 0 0   | 92 34 44  | 5    | 13.0   | 30    | 1,000  | 1.0    | 1.00 | 1.0      | .05      | .6   |
| Howell County  |          |           |      |        |       |        |        |      |          |          |      |
| 145501         | 37 1 1   | 91 58 58  | 3    | 9.5    | 50    | 500    | 1.0    | 1.15 | 1.1      | .07      | .3   |
| 145761         | 36 58 1  | 91 58 58  | 3    | 9.6    | 30    | 500    | <1.0   | 1.16 | 1.2      | <.01     | <.1  |
| 146390         | 36 40 58 | 91 48 0   | 3    | 9.2    | 30    | 200    | <1.0   | .87  | .8       | .04      | .1   |
| 146372         | 37 1 1   | 91 43 58  | 2    | 6.4    | 50    | 700    | N      | 1.29 | 1.3      | .01      | .1   |
| 146486         | 36 55 1  | 91 58 1   | 3    | 9.5    | 30    | 300    | N      | .97  | 1.0      | <.01     | .1   |
| 146199         | 36 52 1  | 91 45 0   | 3    | 8.3    | 50    | 700    | <1.0   | .94  | .9       | .01      | .1   |
| 146424         | 36 49 1  | 91 40 58  | 3    | 3.8    | 30    | 500    | 1.0    | 1.43 | 1.4      | .01      | .1   |
| 146053         | 36 57 0  | 91 46 1   | 3    | 7.8    | 30    | 500    | <1.0   | 1.00 | 1.0      | .03      | .1   |
| 146559         | 36 37 1  | 91 52 1   | 3    | 6.7    | 30    | 300    | N      | .64  | .6       | .03      | .1   |
| 146244         | 36 34 1  | 91 57 0   | 3    | 11.0   | 30    | 200    | N      | .48  | .4       | .03      | <.1  |
| Iron County    |          |           |      |        |       |        |        |      |          |          |      |
| 146259         | 37 32 13 | 90 37 58  | 4    | 10.0   | 30    | 500    | 1.0    | 1.10 | 1.1      | .03      | .1   |
| 146556         | 37 28 58 | 90 35 31  | 4    | 8.9    | 30    | 500    | <1.0   | .87  | .8       | .02      | .2   |
| 146364         | 37 22 44 | 90 37 30  | 3    | 9.4    | 30    | 500    | 1.5    | 1.51 | 1.5      | .04      | .3   |
| 145799         | 37 22 15 | 90 41 31  | 4    | 9.4    | 30    | 300    | 1.0    | .90  | .9       | .03      | .1   |
| 146345         | 37 25 1  | 90 42 14  | 3    | 7.6    | 50    | 300    | N      | 1.08 | 1.0      | .05      | .2   |
| 146403         | 37 31 15 | 90 42 0   | 4    | 13.0   | 20    | 500    | <1.0   | .79  | .8       | <.01     | .1   |
| 145709         | 37 37 30 | 90 37 30  | 3    | 13.0   | 30    | 500    | 1.0    | 1.02 | 1.0      | .04      | .3   |
| 146127         | 37 41 13 | 90 39 28  | 4    | 7.7    | 30    | 700    | <1.0   | 1.28 | 1.2      | .07      | .3   |
| 145590         | 37 42 43 | 90 45 0   | 5    | 12.0   | 30    | 700    | 1.5    | 1.60 | 1.6      | .02      | .3   |
| 146361         | 37 41 13 | 91 3 14   | 2    | 5.0    | 30    | 500    | N      | 3.37 | 3.3      | .04      | .2   |
| Jackson County |          |           |      |        |       |        |        |      |          |          |      |
| 146472         | 38 54 0  | 94 10 58  | 5    | 10.0   | 30    | 700    | <1.0   | 1.73 | 1.7      | .02      | .6   |
| 146189         | 38 52 58 | 94 18 0   | 5    | 10.0   | 30    | 700    | <1.0   | 1.91 | 1.9      | <.01     | .1   |
| 146049         | 38 53 31 | 94 25 1   | 5    | 11.0   | 30    | 1,000  | 1.0    | 2.18 | 2.1      | .06      | .8   |
| 145724         | 39 0 0   | 94 10 1   | 5    | 11.0   | 30    | 1,000  | <1.0   | 1.41 | 1.4      | .03      | .5   |
| 146422         | 39 0 0   | 94 22 1   | 4    | 72.0   | 30    | 700    | 1.0    | 1.88 | 1.8      | .06      | .6   |
| 145648         | 39 4 58  | 94 15 0   | 5    | 6.6    | 30    | 700    | 1.0    | 2.06 | 2.0      | .09      | .6   |
| 146327         | 39 7 58  | 94 22 1   | 5    | 9.0    | 30    | 1,000  | N      | .69  | .7       | .01      | .9   |
| 145639         | 39 12 0  | 94 16 1   | 6    | 12.0   | 50    | 700    | 1.5    | 1.42 | 1.1      | .34      | 1.4  |
| 145560         | 39 8 31  | 94 10 58  | 5    | 8.1    | 30    | 1,000  | N      | 1.57 | 1.4      | .15      | .9   |
| 146600         | 39 6 0   | 94 9 0    | 5    | 9.2    | 30    | 1,000  | <1.0   | 1.68 | 1.6      | .05      | .6   |



Table 3.--Locations and concentrations of frequently detected elements for agricultural soils of Missouri--continued

| Sample         | Ce ppm | Co ppm | Cr ppm | Cu ppm | F%   | Fe % | Ga ppm | Hg ppm | I ppm | K % | La ppm |
|----------------|--------|--------|--------|--------|------|------|--------|--------|-------|-----|--------|
| Howard County  |        |        |        |        |      |      |        |        |       |     |        |
| 146416         | <150   | 10     | 70     | 15     | .020 | 1.9  | 15     | .04    | --    | 1.7 | 30     |
| 145701         | 150    | 15     | 70     | 20     | .006 | 2.6  | 15     | .07    | --    | 1.7 | 70     |
| 146513         | <150   | 7      | 50     | 15     | .044 | 2.4  | 15     | .02    | --    | 2.0 | 30     |
| 146337         | 150    | 15     | 70     | 15     | .030 | 2.2  | 15     | .04    | --    | 1.7 | 70     |
| 146544         | 150    | 10     | 70     | 15     | .041 | 2.6  | 15     | .03    | --    | 2.0 | 30     |
| 146140         | 150    | 10     | 70     | 15     | .033 | 2.6  | 15     | .04    | --    | 1.2 | 50     |
| 145580         | <150   | 15     | 70     | 15     | .076 | 2.9  | 20     | .05    | --    | 1.3 | 50     |
| 145815         | <150   | 15     | 70     | 15     | .027 | 3.1  | 15     | .03    | --    | 1.1 | 30     |
| 145950         | <150   | 10     | 70     | 10     | .023 | 2.1  | 15     | .03    | --    | 1.2 | 50     |
| 145931         | 150    | 15     | 70     | 20     | .053 | 3.1  | 15     | .05    | 3.75  | 2.1 | 50     |
| Howell County  |        |        |        |        |      |      |        |        |       |     |        |
| 145501         | 150    | 15     | 70     | 15     | .190 | 1.9  | 7      | .04    | --    | .8  | 30     |
| 145761         | <150   | 15     | 30     | 7      | .012 | 2.0  | <5     | .02    | --    | .8  | 30     |
| 146390         | <150   | 10     | 30     | 7      | .028 | 1.7  | 5      | .02    | --    | 1.0 | 30     |
| 146372         | <150   | 10     | 70     | 10     | .010 | 1.6  | 5      | .05    | --    | 2.1 | 30     |
| 146486         | <150   | 10     | 30     | 7      | .011 | 1.6  | 7      | .02    | --    | .8  | 30     |
| 146199         | 150    | 15     | 70     | 7      | .013 | 1.7  | 7      | .02    | --    | 1.2 | 50     |
| 146424         | <150   | 7      | 30     | 7      | .040 | 1.0  | 5      | .04    | 3.20  | .9  | 50     |
| 146053         | 150    | 20     | 70     | 10     | .015 | 1.7  | 7      | .06    | --    | 1.0 | 70     |
| 146559         | <150   | 7      | 30     | 7      | .008 | 1.3  | 5      | <.01   | --    | .7  | 30     |
| 146244         | <150   | 7      | 30     | 7      | .011 | 1.3  | 5      | .01    | --    | .4  | 30     |
| Iron County    |        |        |        |        |      |      |        |        |       |     |        |
| 146259         | 150    | 15     | 50     | 15     | .022 | 2.0  | 15     | .03    | --    | 1.3 | 70     |
| 146556         | 150    | 15     | 70     | 10     | .017 | 2.2  | 10     | <.01   | 5.15  | 1.5 | 30     |
| 146364         | <150   | 7      | 30     | 20     | .014 | 1.5  | 10     | .04    | --    | 1.1 | 30     |
| 145799         | <150   | 20     | 30     | 30     | .019 | 2.2  | 15     | .04    | --    | 1.2 | 50     |
| 146345         | <150   | 10     | 70     | 20     | .016 | 1.7  | 10     | .02    | --    | .8  | 30     |
| 146403         | <150   | 7      | 30     | 7      | .008 | 1.9  | 15     | .04    | --    | 1.8 | 30     |
| 145709         | 150    | 15     | 50     | 7      | .039 | 2.6  | 15     | .04    | --    | 1.1 | 70     |
| 146127         | 150    | 15     | 70     | 15     | .016 | 2.0  | 15     | .05    | --    | 1.6 | 50     |
| 145590         | 150    | 15     | 70     | 15     | .088 | 3.7  | 15     | .04    | --    | 1.6 | 50     |
| 146361         | <150   | 7      | 70     | 15     | .011 | 1.0  | 7      | .38    | --    | .9  | 30     |
| Jackson County |        |        |        |        |      |      |        |        |       |     |        |
| 146472         | <150   | 7      | 50     | 15     | .024 | 2.0  | 15     | .01    | 5.22  | 1.7 | 50     |
| 146189         | 150    | 7      | 70     | 10     | .026 | 1.9  | 15     | .04    | --    | 1.3 | 70     |
| 146049         | 150    | 7      | 70     | 20     | .036 | 2.7  | 15     | .06    | --    | 1.7 | 70     |
| 145724         | <150   | 10     | 70     | 20     | .037 | 2.8  | 15     | .05    | --    | 1.7 | 30     |
| 146422         | 150    | 10     | 70     | 15     | .010 | 1.8  | 15     | .07    | --    | 1.9 | 70     |
| 145648         | <150   | 7      | 70     | 15     | .036 | 2.0  | 15     | .08    | --    | 1.8 | 70     |
| 146327         | 150    | 7      | 30     | 15     | .028 | 1.7  | 15     | .03    | --    | 2.1 | 70     |
| 145639         | <150   | 10     | 70     | 20     | .047 | 2.7  | 15     | .08    | --    | 2.1 | 70     |
| 145560         | 150    | 7      | 70     | 15     | .150 | 1.9  | 15     | .04    | --    | 1.9 | 50     |
| 146600         | <150   | 7      | 70     | 15     | .027 | 2.1  | 15     | .04    | --    | 1.9 | 50     |



Table 3.--Locations and concentrations of frequently detected elements for agricultural soils of Missouri--continued

| Sample         | Li ppm | Mg % | Mn ppm | Na % | Nb ppm | Nd ppm | Ni ppm | P % | Pb ppm | Sc ppm | Se ppm |
|----------------|--------|------|--------|------|--------|--------|--------|-----|--------|--------|--------|
| Howard County  |        |      |        |      |        |        |        |     |        |        |        |
| 146416         | 24     | .34  | 1,000  | .70  | <10    | <70    | 20     | .09 | 20     | 7      | .6     |
| 145701         | 32     | .36  | 700    | .49  | <10    | 70     | 30     | .10 | 15     | 15     | .9     |
| 146513         | 22     | .45  | 700    | .82  | <10    | <70    | 15     | .09 | 15     | 7      | .4     |
| 146337         | 24     | .39  | 1,000  | .79  | 10     | 70     | 15     | .09 | 15     | 15     | .2     |
| 146544         | 22     | .48  | 700    | .84  | <10    | 70     | 30     | .09 | 15     | 7      | .5     |
| 146140         | 29     | .40  | 150    | .56  | <10    | 70     | 30     | .04 | 15     | 10     | .3     |
| 145580         | 32     | .60  | 500    | .62  | <10    | 70     | 30     | .04 | 30     | 15     | .8     |
| 145815         | 28     | .28  | 300    | .26  | 10     | <70    | 20     | .02 | 15     | 10     | <.1    |
| 145950         | 23     | .25  | 500    | .56  | 10     | 70     | 15     | .04 | 15     | 7      | .3     |
| 145931         | 27     | .57  | 700    | .71  | <10    | 70     | 30     | .13 | 15     | 15     | <.1    |
| Howell County  |        |      |        |      |        |        |        |     |        |        |        |
| 145501         | 22     | .16  | 1,000  | .16  | 10     | 70     | 15     | .06 | 20     | 7      | .3     |
| 145761         | 22     | .15  | 1,000  | .17  | 10     | 70     | 7      | .04 | 20     | 7      | .1     |
| 146390         | 20     | .13  | 1,000  | .14  | <10    | <70    | 7      | .04 | 15     | 5      | .6     |
| 146372         | 20     | .13  | 1,000  | .19  | 10     | <70    | 7      | .04 | 15     | 7      | .3     |
| 146486         | 21     | .12  | 1,000  | .16  | <10    | <70    | 15     | .04 | 15     | 7      | .4     |
| 146199         | 22     | .18  | 1,500  | .23  | 10     | 70     | 10     | .03 | 30     | 7      | <.1    |
| 146424         | 18     | .11  | 1,500  | .20  | <10    | <70    | 7      | .04 | 15     | 7      | .2     |
| 146053         | 21     | .16  | 1,500  | .18  | 15     | 70     | 10     | .04 | 20     | 7      | .1     |
| 146559         | 17     | .11  | 500    | .13  | <10    | <70    | 7      | .04 | 15     | 5      | .3     |
| 146244         | 20     | .11  | 200    | .08  | <10    | <70    | 7      | .04 | 15     | 5      | <.1    |
| Iron County    |        |      |        |      |        |        |        |     |        |        |        |
| 146259         | 19     | .16  | 1,500  | .22  | <10    | 70     | 15     | .09 | 20     | 10     | .2     |
| 146556         | 21     | .22  | 1,000  | .24  | <10    | 70     | 15     | .04 | 15     | 7      | .6     |
| 146364         | 18     | .26  | 1,000  | .21  | 10     | <70    | 15     | .09 | 30     | 7      | .1     |
| 145799         | 23     | .22  | 1,500  | .24  | 10     | 70     | 30     | .02 | 20     | 7      | .2     |
| 146345         | 19     | .19  | 700    | .16  | 10     | <70    | 15     | .04 | 30     | 7      | <.1    |
| 146403         | 21     | .17  | 700    | .33  | <10    | 70     | 7      | .03 | 15     | 7      | .4     |
| 145709         | 23     | .31  | 1,500  | .34  | 10     | 70     | 10     | .03 | 30     | 7      | .6     |
| 146127         | 24     | .29  | 1,500  | .38  | 10     | 70     | 15     | .04 | 30     | 7      | <.1    |
| 145590         | 27     | .34  | 3,000  | .36  | <10    | 70     | 20     | .04 | 30     | 10     | .7     |
| 146361         | 15     | .13  | 300    | .22  | <10    | <70    | 15     | .09 | 30     | 7      | .4     |
| Jackson County |        |      |        |      |        |        |        |     |        |        |        |
| 146472         | 21     | .36  | 500    | .83  | <10    | <70    | 15     | .04 | 20     | 7      | .8     |
| 146189         | 24     | .35  | 700    | .77  | <10    | 70     | 15     | .09 | 15     | 10     | .5     |
| 146049         | 26     | .43  | 700    | .69  | <10    | 70     | 15     | .09 | 15     | 10     | .1     |
| 145724         | 25     | .49  | 1,000  | .69  | <10    | 70     | 30     | .03 | 15     | 10     | .8     |
| 146422         | 21     | .33  | 700    | .81  | <10    | 70     | 15     | .02 | 200    | 7      | .6     |
| 145648         | 20     | .33  | 500    | .78  | <10    | 70     | 20     | .10 | 20     | 10     | .6     |
| 146327         | 18     | .40  | 200    | 1.16 | <10    | 70     | 15     | .13 | 15     | 7      | <.1    |
| 145639         | 32     | .96  | 500    | .82  | <10    | 70     | 20     | .10 | 15     | 15     | .7     |
| 145560         | 18     | .33  | 500    | .85  | <10    | 70     | 15     | .09 | 15     | 7      | .4     |
| 146600         | 22     | .38  | 500    | .79  | <10    | 70     | 20     | .09 | 15     | 7      | .6     |

Table 3.--Locations and concentrations of frequently detected elements for agricultural soils of Missouri--continued

| Sample         | Si % | Sr ppm | Th ppm | Ti % | U ppm | V ppm | Y ppm | Yb ppm | Zn ppm | Zr ppm |
|----------------|------|--------|--------|------|-------|-------|-------|--------|--------|--------|
| Howard County  |      |        |        |      |       |       |       |        |        |        |
| 146416         | 33   | 150    | --     | .30  | --    | 70    | 30    | 3.0    | 53     | 200    |
| 145701         | 32   | 150    | --     | .30  | --    | 100   | 50    | 5.0    | 85     | 200    |
| 146513         | 33   | 150    | --     | .30  | --    | 70    | 30    | 3.0    | 70     | 300    |
| 146337         | 34   | 200    | 15.16  | .30  | 3.61  | 100   | 50    | 5.0    | 57     | 500    |
| 146544         | 33   | 150    | 10.81  | .30  | 4.08  | 70    | 30    | 3.0    | 75     | 300    |
| 146140         | 33   | 150    | --     | .30  | --    | 100   | 30    | 5.0    | 55     | 300    |
| 145580         | 32   | 150    | --     | .50  | --    | 150   | 30    | 3.0    | 66     | 200    |
| 145815         | 36   | 70     | --     | .30  | --    | 70    | 30    | 3.0    | 42     | 500    |
| 145950         | 34   | 150    | --     | .30  | --    | 70    | 30    | 3.0    | 34     | 500    |
| 145931         | 31   | 200    | --     | .30  | --    | 150   | 30    | 3.0    | 77     | 300    |
| Howell County  |      |        |        |      |       |       |       |        |        |        |
| 145501         | 35   | 50     | --     | .50  | --    | 70    | 30    | 3.0    | 35     | 500    |
| 145761         | 38   | 50     | --     | .30  | --    | 50    | 30    | 3.0    | 32     | 300    |
| 146390         | 38   | 30     | --     | .30  | --    | 30    | 30    | 3.0    | 37     | 200    |
| 146372         | 38   | 70     | --     | .50  | --    | 70    | 30    | 2.0    | 30     | 700    |
| 146486         | 38   | 70     | 8.72   | .30  | 3.81  | 50    | 50    | 3.0    | 30     | 200    |
| 146199         | 39   | 70     | --     | .50  | --    | 70    | 30    | 3.0    | 30     | 300    |
| 146424         | 39   | 70     | --     | .30  | --    | 30    | 30    | 3.0    | 31     | 700    |
| 146053         | 38   | 70     | 9.42   | .50  | 4.62  | 70    | 50    | 5.0    | 28     | 700    |
| 146559         | 38   | 50     | --     | .30  | --    | 30    | 30    | 3.0    | 33     | 300    |
| 146244         | 40   | 30     | --     | .30  | --    | 30    | 20    | 3.0    | 23     | 300    |
| Iron County    |      |        |        |      |       |       |       |        |        |        |
| 146259         | 38   | 70     | --     | .30  | --    | 70    | 50    | 5.0    | 44     | 300    |
| 146556         | 37   | 70     | --     | .50  | --    | 70    | 50    | 3.0    | 38     | 300    |
| 146364         | 38   | 70     | --     | .30  | --    | 50    | 30    | 3.0    | 78     | 300    |
| 145799         | 38   | 70     | --     | .30  | --    | 70    | 30    | 3.0    | 48     | 300    |
| 146345         | 39   | 70     | 13.72  | .30  | 2.86  | 70    | 30    | 3.0    | 35     | 500    |
| 146403         | 35   | 70     | --     | .20  | --    | 50    | 30    | 3.0    | 47     | 150    |
| 145709         | 37   | 100    | --     | .50  | --    | 70    | 50    | 5.0    | 43     | 700    |
| 146127         | 33   | 100    | --     | .30  | --    | 70    | 50    | 3.0    | 96     | 300    |
| 145590         | 34   | 150    | 11.11  | .50  | 4.62  | 70    | 50    | 5.0    | 43     | 300    |
| 146361         | 38   | 100    | --     | .30  | --    | 50    | 30    | 3.0    | 54     | 200    |
| Jackson County |      |        |        |      |       |       |       |        |        |        |
| 146472         | 34   | 150    | 14.73  | .30  | 4.02  | 70    | 30    | 3.0    | 51     | 300    |
| 146189         | 36   | 200    | --     | .30  | --    | 70    | 50    | 5.0    | 56     | 300    |
| 146049         | 30   | 300    | --     | .30  | --    | 100   | 30    | 3.0    | 59     | 300    |
| 145724         | 33   | 150    | --     | .30  | --    | 100   | 30    | 3.0    | 66     | 300    |
| 146422         | 34   | 150    | 10.35  | .30  | 4.01  | 70    | 30    | 3.0    | 80     | 300    |
| 145648         | 33   | 200    | --     | .30  | --    | 70    | 30    | 3.0    | 81     | 300    |
| 146327         | 36   | 500    | --     | .30  | --    | 70    | 30    | 3.0    | 64     | 150    |
| 145639         | 31   | 200    | --     | .30  | --    | 150   | 30    | 3.0    | 87     | 150    |
| 145560         | 33   | 150    | --     | .30  | --    | 70    | 30    | 3.0    | 47     | 300    |
| 146600         | 34   | 150    | --     | .30  | --    | 70    | 30    | 3.0    | 60     | 300    |

Table 3.--Locations and concentrations of frequently detected elements for agricultural soils of Missouri--continued

| Sample           | Latitude | Longitude | Al % | As ppm | B ppm | Ba ppm | Be ppm | C %  | C org. % | C crb. % | Ca % |
|------------------|----------|-----------|------|--------|-------|--------|--------|------|----------|----------|------|
| Jasper County    |          |           |      |        |       |        |        |      |          |          |      |
| 145627           | 37 18 28 | 94 33 0   | 3    | 6.8    | 30    | 500    | <1.0   | .54  | .5       | <.01     | .2   |
| 145423           | 37 19 1  | 94 26 31  | 2    | 5.5    | 20    | 150    | <1.0   | .82  | .7       | .11      | .1   |
| 146396           | 37 19 1  | 94 21 0   | 3    | 6.4    | 30    | 300    | N      | 1.20 | 1.2      | .03      | .2   |
| 146059           | 37 12 0  | 94 29 31  | 3    | 10.0   | 30    | 300    | 1.0    | 1.60 | 1.6      | .04      | .4   |
| 146048           | 37 12 0  | 94 25 58  | 4    | 8.0    | 30    | 500    | N      | 1.75 | 1.8      | <.01     | .3   |
| 145438           | 37 3 43  | 94 20 45  | 3    | 8.0    | 30    | 500    | <1.0   | .94  | .8       | .09      | .1   |
| 146318           | 37 7 1   | 94 15 43  | 3    | 9.1    | 50    | 700    | <1.0   | 1.25 | 1.2      | <.01     | .4   |
| 146115           | 37 4 30  | 94 6 0    | 3    | 12.0   | 30    | 700    | N      | 1.04 | 1.0      | .01      | .1   |
| 146581           | 37 14 31 | 94 9 28   | 4    | 14.0   | 30    | 500    | <1.0   | 1.28 | 1.2      | .03      | .3   |
| 146331           | 37 18 0  | 94 12 14  | 3    | 7.0    | 50    | 700    | 1.0    | 1.75 | 1.7      | .09      | .6   |
| Jefferson County |          |           |      |        |       |        |        |      |          |          |      |
| 146055           | 38 25 58 | 90 37 58  | 4    | 6.8    | 30    | 700    | 1.0    | 1.21 | 1.1      | .13      | .6   |
| 146482           | 38 28 58 | 90 31 1   | 4    | 5.6    | 30    | 700    | N      | 1.08 | 1.1      | .01      | .4   |
| 146295           | 38 25 58 | 90 22 1   | 5    | 16.0   | 50    | 700    | <1.0   | .97  | 1.0      | <.01     | .6   |
| 146191           | 38 17 31 | 90 44 31  | 2    | 9.0    | 30    | 700    | <1.0   | 1.03 | 1.0      | .05      | .1   |
| 145630           | 38 12 28 | 90 35 31  | 3    | 6.5    | 50    | 500    | <1.0   | .70  | .7       | <.01     | .1   |
| 146226           | 38 8 31  | 90 40 58  | 4    | 8.6    | 50    | 1,500  | N      | 1.43 | 1.2      | .25      | .8   |
| 146100           | 38 13 30 | 90 24 28  | 3    | 9.0    | 30    | 700    | 1.0    | 1.17 | 1.1      | .04      | .3   |
| 146466           | 38 4 58  | 90 32 31  | 5    | 8.6    | 30    | 700    | <1.0   | .96  | 1.0      | <.01     | .3   |
| 145999           | 38 2 31  | 90 34 58  | 3    | 9.6    | 30    | 1,000  | 1.0    | 4.20 | 1.3      | 2.91     | 5.4  |
| 146378           | 38 7 58  | 90 17 31  | 4    | 4.6    | 30    | 300    | <1.0   | .87  | .8       | .03      | .4   |
| Johnson County   |          |           |      |        |       |        |        |      |          |          |      |
| 145434           | 38 54 43 | 93 30 57  | 5    | 9.1    | 20    | 700    | 1.0    | 1.85 | 1.8      | .08      | .6   |
| 145741           | 38 51 28 | 93 55 1   | 6    | 12.0   | 30    | 700    | <1.0   | 1.34 | 1.3      | .01      | .4   |
| 146612           | 38 46 58 | 93 58 58  | 5    | 11.0   | 20    | 700    | <1.0   | 1.42 | 1.4      | .05      | .5   |
| 145742           | 38 51 0  | 93 47 31  | 5    | 10.0   | 30    | 700    | 1.0    | 1.53 | 1.5      | <.01     | .6   |
| 145530           | 38 52 58 | 93 35 31  | 4    | 7.7    | 50    | 700    | 1.0    | 1.50 | 1.4      | .06      | .5   |
| 145953           | 38 37 1  | 94 1 1    | 5    | 11.0   | 30    | 1,000  | 1.0    | 1.87 | 1.9      | <.01     | .5   |
| 145413           | 38 46 15 | 93 54 0   | 4    | 7.8    | 30    | 700    | 1.0    | 1.34 | 1.2      | .10      | .6   |
| 146192           | 38 48 0  | 93 40 1   | 4    | 11.0   | 30    | 700    | 1.5    | 1.88 | 1.8      | .04      | .3   |
| 146392           | 38 37 58 | 93 52 15  | 5    | 12.0   | 30    | 500    | 1.0    | 2.27 | 2.2      | .04      | .5   |
| 145848           | 38 37 30 | 93 34 58  | 4    | 17.0   | 30    | 700    | 1.0    | 2.03 | 2.0      | .05      | .5   |
| Knox County      |          |           |      |        |       |        |        |      |          |          |      |
| 145569           | 40 0 50  | 92 17 13  | 4    | 10.0   | 30    | 1,000  | 1.0    | 1.06 | 1.0      | .03      | .4   |
| 145776           | 39 58 8  | 92 1 30   | 4    | 14.0   | 30    | 700    | 1.0    | 2.76 | 2.7      | .06      | .4   |
| 145660           | 40 2 9   | 92 2 13   | 4    | 14.0   | 30    | 700    | <1.0   | 2.03 | 2.0      | .04      | .4   |
| 146052           | 40 5 13  | 92 4 1    | 5    | 17.0   | 30    | 1,000  | 1.0    | 1.87 | 1.8      | .02      | .5   |
| 146420           | 40 4 44  | 92 16 1   | 5    | 15.0   | 30    | 700    | 1.0    | 1.09 | 1.1      | .02      | .3   |
| 146284           | 40 11 20 | 92 19 30  | 5    | 21.0   | 30    | 700    | <1.0   | 1.97 | 1.9      | .03      | .5   |
| 146070           | 40 11 45 | 92 8 16   | 5    | 9.9    | 30    | 500    | 1.0    | 1.09 | 1.1      | .02      | .4   |
| 146287           | 40 10 30 | 91 59 45  | 5    | 17.0   | 30    | 700    | 1.0    | 1.15 | 1.1      | .07      | .4   |
| 145548           | 40 13 58 | 92 1 44   | 5    | 11.0   | 30    | 500    | N      | 1.55 | 1.5      | .03      | .3   |
| 146157           | 40 13 30 | 92 17 13  | 5    | 12.0   | 30    | 700    | <1.0   | 2.13 | 2.1      | <.01     | .5   |

Table 3.--Locations and concentrations of frequently detected elements for agricultural soils of Missouri--continued

| Sample           | Ce ppm | Co ppm | Cr ppm | Cu ppm | F%   | Fe % | Ga ppm | Hg ppm | I ppm | K % | La ppm |
|------------------|--------|--------|--------|--------|------|------|--------|--------|-------|-----|--------|
| Jasper County    |        |        |        |        |      |      |        |        |       |     |        |
| 145627           | <150   | 7      | 50     | 7      | .015 | 1.5  | 5      | .04    | --    | .8  | 30     |
| 145423           | N      | 3      | 50     | 7      | .170 | 1.5  | <5     | .04    | --    | .5  | 30     |
| 146396           | <150   | 5      | 30     | 7      | .014 | 1.3  | 7      | .02    | 3.71  | .7  | 30     |
| 146059           | 150    | 7      | 70     | 15     | .017 | 2.3  | 15     | .05    | --    | .7  | 30     |
| 146048           | <150   | 7      | 70     | 15     | .021 | 2.4  | 10     | .06    | --    | 1.0 | 50     |
| 145438           | <150   | 15     | 50     | 10     | .020 | 2.0  | 7      | .06    | --    | .9  | 30     |
| 146318           | 150    | 10     | 70     | 10     | .015 | 2.0  | 7      | .04    | --    | 1.2 | 50     |
| 146115           | 150    | 10     | 70     | 10     | .014 | 2.7  | 10     | .02    | --    | .8  | 50     |
| 146581           | <150   | 15     | 50     | 15     | .024 | 3.1  | 10     | .04    | --    | 1.2 | 30     |
| 146331           | 150    | 7      | 70     | 15     | .018 | 1.8  | 15     | .02    | --    | 1.3 | 50     |
| Jefferson County |        |        |        |        |      |      |        |        |       |     |        |
| 146055           | 150    | 15     | 70     | 20     | .019 | 1.7  | 15     | .04    | --    | 2.0 | 50     |
| 146482           | <150   | 10     | 30     | 10     | .011 | 1.5  | 7      | .04    | --    | 1.6 | 30     |
| 146295           | 150    | 15     | 70     | 20     | .019 | 2.0  | 15     | .07    | --    | 1.8 | 70     |
| 146191           | 150    | 15     | 70     | 15     | .023 | 1.7  | 15     | .07    | --    | .5  | 50     |
| 145630           | <150   | 15     | 50     | 10     | .014 | 1.5  | 7      | .12    | --    | 1.4 | 30     |
| 146226           | 150    | 15     | 70     | 30     | .023 | 2.2  | 15     | .04    | --    | 1.8 | 30     |
| 146100           | 150    | 15     | 50     | 15     | .016 | 2.0  | 15     | .06    | 3.17  | 2.0 | 50     |
| 146466           | <150   | 10     | 70     | 15     | .019 | 1.9  | 15     | .02    | --    | 1.8 | 30     |
| 145999           | N      | 20     | 30     | 150    | .023 | 2.9  | 10     | .08    | --    | 2.0 | 30     |
| 146378           | <150   | 5      | 30     | 7      | .016 | 1.3  | 7      | .02    | --    | 1.7 | 30     |
| Johnson County   |        |        |        |        |      |      |        |        |       |     |        |
| 145434           | <150   | 7      | 70     | 15     | .028 | 1.8  | 15     | .06    | --    | 1.7 | 50     |
| 145741           | 150    | 10     | 70     | 15     | .039 | 3.1  | 15     | .04    | --    | 1.9 | 30     |
| 146612           | <150   | 10     | 50     | 15     | .034 | 2.4  | 15     | .03    | --    | 1.8 | 50     |
| 145742           | 150    | 15     | 70     | 15     | .034 | 2.7  | 15     | .04    | --    | 1.9 | 70     |
| 145530           | <150   | 7      | 70     | 10     | .060 | 1.7  | 10     | .02    | --    | 1.7 | 50     |
| 145953           | 150    | 15     | 70     | 70     | .028 | 2.9  | 15     | .04    | --    | 1.6 | 70     |
| 145413           | 150    | 10     | 70     | 15     | .230 | 1.9  | 15     | .05    | 6.09  | 1.9 | 50     |
| 146192           | 150    | 15     | 70     | 15     | .027 | 2.3  | 15     | .07    | --    | .7  | 50     |
| 146392           | <150   | 10     | 50     | 15     | .024 | 2.4  | 15     | .03    | --    | 1.6 | 50     |
| 145848           | <150   | 7      | 70     | 15     | .030 | 2.5  | 15     | .03    | --    | 1.5 | 50     |
| Knox County      |        |        |        |        |      |      |        |        |       |     |        |
| 145569           | <150   | 10     | 70     | 10     | .110 | 2.4  | 10     | .03    | --    | 1.5 | 50     |
| 145776           | <150   | 15     | 70     | 15     | .026 | 2.6  | 15     | .05    | --    | 1.5 | 50     |
| 145660           | <150   | 10     | 70     | 10     | .096 | 2.5  | 10     | .06    | --    | 1.5 | 50     |
| 146052           | <150   | 20     | 70     | 15     | .032 | 2.9  | 15     | .04    | --    | 1.6 | 30     |
| 146420           | <150   | 15     | 70     | 15     | .014 | 3.0  | 15     | .03    | --    | 1.5 | 50     |
| 146284           | 150    | 15     | 70     | 15     | .020 | 2.7  | 15     | .04    | --    | 1.4 | 70     |
| 146070           | <150   | 7      | 70     | 15     | .029 | 2.8  | 15     | .04    | --    | 1.0 | 50     |
| 146287           | 150    | 15     | 70     | 15     | .026 | 2.9  | 15     | .06    | 2.45  | 1.4 | 70     |
| 145548           | <150   | 7      | 50     | 15     | .044 | 2.5  | 15     | .04    | --    | 1.5 | 30     |
| 146157           | <150   | 10     | 70     | 15     | .033 | 2.5  | 10     | .04    | --    | 1.4 | 50     |

Table 3.--Locations and concentrations of frequently detected elements for agricultural soils of Missouri--continued

| Sample           | Li ppm | Mg % | Mn ppm | Na % | Nb ppm | Nd ppm | Ni ppm | P % | Pb ppm | Sc ppm | Se ppm |
|------------------|--------|------|--------|------|--------|--------|--------|-----|--------|--------|--------|
| Jasper County    |        |      |        |      |        |        |        |     |        |        |        |
| 145627           | 20     | .14  | 700    | .39  | 10     | 70     | 7      | .04 | 20     | 7      | .4     |
| 145423           | 12     | .11  | 150    | .15  | <10    | N      | 5      | .08 | 15     | <5     | .3     |
| 146396           | 19     | .13  | 300    | .36  | <10    | 70     | <5     | .09 | 15     | 5      | .6     |
| 146059           | 21     | .16  | 700    | .25  | 10     | 70     | 15     | .04 | 50     | 7      | .2     |
| 146048           | 29     | .19  | 300    | .25  | <10    | 70     | 15     | .09 | 30     | 7      | <.1    |
| 145438           | 19     | .12  | 1,000  | .34  | 10     | 70     | 7      | .07 | 20     | 7      | .5     |
| 146318           | 20     | .17  | 1,500  | .35  | 10     | <70    | 7      | .17 | 15     | 7      | .7     |
| 146115           | 20     | .17  | 700    | .35  | <10    | 70     | 7      | .03 | 20     | 7      | .3     |
| 146581           | 25     | .21  | 1,500  | .42  | 10     | 70     | 10     | .04 | 30     | 7      | 1.0    |
| 146331           | 25     | .21  | 700    | .30  | <10    | 70     | 7      | .04 | 20     | 10     | .3     |
| Jefferson County |        |      |        |      |        |        |        |     |        |        |        |
| 146055           | 19     | .38  | 1,000  | .61  | <10    | 70     | 15     | .04 | 700    | 7      | <.1    |
| 146482           | 16     | .19  | 1,000  | .52  | 10     | 70     | 15     | .13 | 15     | 7      | .2     |
| 146295           | 21     | .34  | 1,000  | .70  | <10    | 70     | 20     | .09 | 70     | 10     | .2     |
| 146191           | 26     | .32  | 1,000  | .52  | <10    | 70     | 15     | .04 | 20     | 7      | .1     |
| 145630           | 20     | .21  | 500    | .45  | <10    | 70     | 7      | .03 | 20     | 7      | .2     |
| 146226           | 23     | .58  | 1,500  | .50  | <10    | 70     | 15     | .09 | 1,500  | 7      | .4     |
| 146100           | 22     | .31  | 1,500  | .70  | 10     | 70     | 15     | .04 | 30     | 7      | <.1    |
| 146466           | 22     | .30  | 1,500  | .59  | <10    | 70     | 15     | .04 | 70     | 7      | .2     |
| 145999           | 15     | 2.83 | 1,500  | .27  | <10    | N      | 20     | .09 | 7,000  | 7      | <.1    |
| 146378           | 15     | .20  | 700    | .69  | <10    | <70    | 7      | .04 | 15     | 7      | .2     |
| Johnson County   |        |      |        |      |        |        |        |     |        |        |        |
| 145434           | 19     | .30  | 700    | .85  | <10    | 70     | 15     | .12 | 20     | 7      | .9     |
| 145741           | 29     | .52  | 700    | .60  | <10    | 70     | 30     | .03 | 15     | 10     | .6     |
| 146612           | 26     | .40  | 700    | .68  | <10    | <70    | 20     | .04 | 15     | 7      | .7     |
| 145742           | 23     | .42  | 700    | .64  | <10    | 70     | 20     | .06 | 15     | 10     | 1.1    |
| 145530           | 19     | .30  | 500    | .82  | <10    | 70     | 10     | .06 | 15     | 7      | .6     |
| 145953           | 28     | .36  | 1,000  | .53  | 10     | 70     | 30     | .09 | 30     | 15     | .5     |
| 145413           | 19     | .32  | 1,500  | .76  | 10     | 70     | 20     | .07 | 20     | 10     | .4     |
| 146192           | 26     | .29  | 1,000  | .65  | 10     | 70     | 15     | .09 | 20     | 10     | .7     |
| 146392           | 22     | .36  | 1,000  | .67  | <10    | 70     | 15     | .04 | 15     | 7      | .6     |
| 145848           | 23     | .34  | 1,000  | .77  | <10    | <70    | 15     | .06 | 20     | 7      | .4     |
| Knox County      |        |      |        |      |        |        |        |     |        |        |        |
| 145569           | 22     | .24  | 1,500  | .88  | 10     | 70     | 15     | .06 | 30     | 7      | .9     |
| 145776           | 24     | .36  | 1,000  | .73  | 10     | 70     | 15     | .08 | 30     | 10     | .2     |
| 145660           | 21     | .27  | 1,000  | .73  | 10     | 70     | 15     | .07 | 50     | 7      | 1.3    |
| 146052           | 24     | .39  | 1,500  | .73  | <10    | 70     | 15     | .09 | 20     | 7      | .4     |
| 146420           | 27     | .42  | 1,500  | .59  | 10     | <70    | 15     | .04 | 30     | 15     | 1.0    |
| 146284           | 24     | .35  | 1,500  | .74  | <10    | 70     | 15     | .09 | 30     | 15     | .7     |
| 146070           | 29     | .35  | 300    | .41  | <10    | 70     | 15     | .02 | 20     | 15     | .4     |
| 146287           | 27     | .39  | 1,500  | .74  | <10    | 70     | 15     | .04 | 30     | 10     | .7     |
| 145548           | 25     | .46  | 300    | .59  | <10    | <70    | 15     | .05 | 15     | 10     | .5     |
| 146157           | 24     | .35  | 1,000  | .61  | <10    | 70     | 15     | .04 | 20     | 10     | <.1    |



Table 3.--Locations and concentrations of frequently detected elements for agricultural soils of Missouri--continued

| Sample           | Si % | Sr ppm | Th ppm | Ti % | U ppm | V ppm | Y ppm | Yb ppm | Zn ppm | Zr ppm |
|------------------|------|--------|--------|------|-------|-------|-------|--------|--------|--------|
| Jasper County    |      |        |        |      |       |       |       |        |        |        |
| 145627           | 36   | 70     | --     | .50  | --    | 70    | 30    | 3.0    | 42     | 300    |
| 145423           | 40   | 20     | --     | .30  | --    | 30    | 20    | 2.0    | 29     | 700    |
| 146396           | 39   | 70     | --     | .30  | --    | 70    | 30    | 3.0    | 57     | 300    |
| 146059           | 37   | 70     | --     | .30  | --    | 70    | 50    | 5.0    | 181    | 500    |
| 146048           | 33   | 70     | --     | .30  | 5.86  | 70    | 50    | 3.0    | 144    | 300    |
| 145438           | 38   | 70     | --     | .50  | --    | 70    | 30    | 5.0    | 34     | 700    |
| 146318           | 38   | 100    | --     | .50  | --    | 70    | 30    | 7.0    | 38     | 300    |
| 146115           | 37   | 70     | --     | .30  | --    | 70    | 50    | 5.0    | 29     | 300    |
| 146581           | 35   | 70     | --     | .30  | --    | 70    | 30    | 3.0    | 39     | 300    |
| 146331           | 37   | 150    | 14.37  | .30  | 3.87  | 70    | 50    | 7.0    | 53     | 300    |
| Jefferson County |      |        |        |      |       |       |       |        |        |        |
| 146055           | 36   | 150    | --     | .30  | --    | 70    | 30    | 3.0    | 173    | 500    |
| 146482           | 38   | 100    | --     | .30  | --    | 50    | 30    | 3.0    | 50     | 300    |
| 146295           | 34   | 200    | --     | .50  | --    | 100   | 70    | 5.0    | 108    | 500    |
| 146191           | 39   | 150    | --     | .50  | --    | 70    | 30    | 3.0    | 53     | 500    |
| 145630           | 38   | 100    | 6.29   | .30  | 3.05  | 70    | 30    | 3.0    | 36     | 300    |
| 146226           | 34   | 150    | --     | .20  | --    | 70    | 30    | 3.0    | 215    | 300    |
| 146100           | 35   | 100    | --     | .30  | --    | 70    | 30    | 3.0    | 59     | 300    |
| 146466           | 38   | 150    | 8.67   | .30  | 3.97  | 70    | 30    | 3.0    | 183    | 300    |
| 145999           | 23   | 100    | --     | .20  | --    | 50    | 30    | 3.0    | 640    | 150    |
| 146378           | 38   | 100    | --     | .20  | --    | 50    | 20    | 3.0    | 47     | 300    |
| Johnson County   |      |        |        |      |       |       |       |        |        |        |
| 145434           | 35   | 150    | 9.28   | .30  | 4.29  | 70    | 30    | 2.0    | 54     | 300    |
| 145741           | 33   | 150    | --     | .30  | --    | 100   | 30    | 3.0    | 73     | 200    |
| 146612           | 34   | 150    | --     | .30  | --    | 70    | 30    | 3.0    | 81     | 300    |
| 145742           | 34   | 150    | --     | .30  | --    | 100   | 50    | 5.0    | 64     | 200    |
| 145530           | 34   | 150    | 11.37  | .50  | 4.16  | 100   | 50    | 3.0    | 51     | 700    |
| 145953           | 31   | 200    | --     | .30  | --    | 100   | 70    | 7.0    | 91     | 500    |
| 145413           | 36   | 150    | --     | .50  | --    | 70    | 30    | 3.0    | 55     | 500    |
| 146192           | 34   | 150    | --     | .30  | --    | 70    | 50    | 5.0    | 43     | 500    |
| 146392           | 33   | 150    | --     | .30  | --    | 70    | 30    | 3.0    | 54     | 200    |
| 145848           | 35   | 150    | --     | .30  | --    | 70    | 30    | 3.0    | 64     | 300    |
| Knox County      |      |        |        |      |       |       |       |        |        |        |
| 145569           | 36   | 150    | --     | .50  | --    | 70    | 30    | 3.0    | 42     | 500    |
| 145776           | 35   | 150    | --     | .50  | --    | 100   | 30    | 3.0    | 54     | 300    |
| 145660           | 33   | 150    | 12.20  | .30  | 4.68  | 70    | 30    | 3.0    | 56     | 300    |
| 146052           | 30   | 200    | --     | .30  | --    | 100   | 30    | 3.0    | 56     | 150    |
| 146420           | 32   | 150    | --     | .30  | --    | 100   | 30    | 3.0    | 60     | 200    |
| 146284           | 33   | 150    | --     | .50  | --    | 150   | 50    | 5.0    | 58     | 300    |
| 146070           | 33   | 150    | --     | .30  | --    | 100   | 30    | 3.0    | 47     | 300    |
| 146287           | 34   | 150    | --     | .30  | --    | 150   | 30    | 3.0    | 69     | 300    |
| 145548           | 32   | 150    | 10.07  | .30  | 3.72  | 70    | 30    | 3.0    | 63     | 300    |
| 146157           | 32   | 150    | --     | .30  | --    | 100   | 30    | 3.0    | 57     | 300    |



Table 3.--Locations and concentrations of frequently detected elements for agricultural soils of Missouri--continued

| Sample           | Latitude | Longitude | Al % | As ppm | B ppm | Ba ppm | Be ppm | C %  | C org. % | C crb. % | Ca % |
|------------------|----------|-----------|------|--------|-------|--------|--------|------|----------|----------|------|
| Laclede County   |          |           |      |        |       |        |        |      |          |          |      |
| 145585           | 37 34 58 | 92 42 0   | 2    | 6.3    | 30    | 700    | 1.0    | 1.20 | 1.1      | .11      | .4   |
| 146484           | 37 43 30 | 92 43 30  | 2    | 5.2    | 30    | 300    | N      | 2.35 | 2.3      | .01      | .4   |
| 145691           | 37 49 1  | 92 40 58  | 3    | 6.0    | 50    | 700    | <1.0   | .89  | .9       | <.01     | <.1  |
| 146019           | 37 40 1  | 92 39 28  | 2    | 8.0    | 30    | 500    | N      | 1.30 | 1.3      | .04      | .4   |
| 145687           | 37 29 13 | 92 27 28  | 3    | 6.1    | 30    | 700    | 1.0    | 1.25 | 1.2      | .05      | <.1  |
| 146426           | 37 43 30 | 92 50 31  | 3    | 7.7    | 30    | 300    | <1.0   | 1.10 | 1.1      | <.01     | .1   |
| 145970           | 37 31 30 | 92 48 0   | 3    | 5.2    | 30    | 500    | 1.0    | 1.06 | 1.0      | .02      | .2   |
| 146455           | 37 37 58 | 92 31 58  | 5    | 12.0   | 30    | 700    | <1.0   | 1.55 | 1.5      | .02      | .2   |
| 146370           | 37 34 58 | 92 33 0   | 2    | 6.5    | 50    | 700    | N      | 2.03 | 2.0      | .04      | .1   |
| 146553           | 37 37 30 | 92 42 28  | 4    | 7.1    | 30    | 500    | N      | 1.34 | 1.3      | .07      | .4   |
| Lafayette County |          |           |      |        |       |        |        |      |          |          |      |
| 146143           | 39 7 58  | 93 31 30  | 6    | 11.0   | 70    | 700    | 1.0    | 1.84 | 1.8      | <.01     | .6   |
| 145737           | 39 8 31  | 93 47 45  | 5    | 10.0   | 30    | 700    | N      | 1.60 | 1.6      | .04      | .5   |
| 146016           | 39 6 28  | 93 58 30  | 5    | 9.6    | 30    | 700    | <1.0   | 1.46 | 1.4      | .02      | .6   |
| 146386           | 39 6 28  | 93 40 44  | 5    | 9.9    | 30    | 700    | <1.0   | 1.84 | 1.8      | <.01     | .4   |
| 145518           | 39 4 15  | 93 34 30  | 6    | 10.0   | 30    | 700    | 1.0    | 1.70 | 1.6      | .09      | .4   |
| 145871           | 39 5 31  | 94 4 44   | 7    | 9.8    | 50    | 700    | 1.5    | 1.62 | 1.6      | .04      | .5   |
| 146310           | 39 2 31  | 93 51 0   | 4    | 8.3    | 70    | 1,000  | 1.0    | 1.88 | 1.8      | .05      | .6   |
| 145653           | 39 1 15  | 93 45 0   | 4    | 9.2    | 30    | 700    | <1.0   | 1.74 | 1.7      | .04      | .7   |
| 146182           | 38 58 1  | 94 4 58   | 6    | 12.0   | 30    | 700    | 1.0    | 1.67 | 1.6      | .04      | .7   |
| 145507           | 38 58 44 | 93 38 31  | 5    | 9.9    | 50    | 1,000  | 1.0    | 1.78 | 1.8      | .02      | .5   |
| Lawrence County  |          |           |      |        |       |        |        |      |          |          |      |
| 145728           | 37 6 0   | 93 47 31  | 3    | 11.0   | 30    | 700    | <1.0   | 1.13 | 1.1      | .03      | .2   |
| 146477           | 37 15 14 | 94 1 30   | 3    | 10.0   | 30    | 300    | <1.0   | 1.27 | 1.2      | .02      | .3   |
| 145581           | 37 9 0   | 93 46 58  | 4    | 7.7    | 50    | 700    | 1.5    | 1.00 | .9       | .07      | .1   |
| 145952           | 37 6 28  | 93 51 0   | 4    | 5.5    | 50    | 700    | 1.0    | 1.36 | 1.4      | <.01     | .3   |
| 145525           | 37 5 31  | 93 42 0   | 4    | 7.7    | 50    | 700    | <1.0   | 1.36 | 1.2      | .11      | .2   |
| 146489           | 36 58 1  | 93 58 30  | 3    | 7.5    | 30    | 300    | <1.0   | .88  | .9       | .02      | .1   |
| 145902           | 37 1 30  | 93 52 1   | 3    | 9.1    | 30    | 500    | N      | 1.10 | 1.1      | .01      | .2   |
| 146309           | 37 1 1   | 93 43 1   | 3    | 5.0    | 50    | 700    | N      | 1.37 | 1.4      | .02      | .3   |
| 145912           | 36 55 44 | 93 48 0   | 3    | 4.6    | 70    | 500    | 1.0    | 2.02 | 2.0      | .01      | .2   |
| 145831           | 37 10 58 | 93 51 0   | 3    | 9.4    | 30    | 500    | N      | 1.86 | 1.8      | .04      | .4   |
| Lewis County     |          |           |      |        |       |        |        |      |          |          |      |
| 145857           | 40 10 30 | 91 49 58  | 5    | 13.0   | 30    | 1,000  | 1.5    | 1.72 | 1.7      | .02      | .5   |
| 146586           | 40 15 0  | 91 46 1   | 5    | 14.0   | 30    | 700    | 1.0    | 1.48 | 1.4      | .07      | .6   |
| 145490           | 40 13 58 | 91 32 13  | 4    | 5.9    | 30    | 500    | N      | 1.42 | 1.3      | .11      | .6   |
| 146080           | 40 7 1   | 91 55 58  | 4    | 11.0   | 30    | 700    | 1.5    | 1.61 | 1.6      | .01      | .4   |
| 145470           | 40 4 58  | 91 45 0   | 6    | 17.0   | 30    | 500    | <1.0   | 1.08 | 1.0      | .09      | .6   |
| 146014           | 40 4 1   | 91 33 28  | 4    | 8.1    | 30    | 700    | N      | 1.93 | 1.9      | .05      | .6   |
| 145876           | 40 0 0   | 91 49 30  | 3    | 17.0   | 30    | 700    | 1.5    | 1.75 | 1.7      | .01      | .4   |
| 145900           | 39 59 45 | 91 42 28  | 4    | 13.0   | 30    | 700    | <1.0   | 1.33 | 1.2      | .07      | .5   |
| 146474           | 40 0 28  | 91 31 58  | 5    | 8.0    | 20    | 500    | <1.0   | 1.41 | 1.4      | .02      | .6   |
| 145956           | 39 57 28 | 91 28 1   | 7    | 11.0   | 30    | 700    | 1.5    | 2.01 | 2.0      | <.01     | .8   |

Table 3.--Locations and concentrations of frequently detected elements for agricultural soils of Missouri--continued

| Sample           | Ce ppm | Co ppm | Cr ppm | Cu ppm | F%   | Fe % | Ga ppm | Hg ppm | I ppm | K % | La ppm |
|------------------|--------|--------|--------|--------|------|------|--------|--------|-------|-----|--------|
| Laclede County   |        |        |        |        |      |      |        |        |       |     |        |
| 145585           | 150    | 15     | 50     | 15     | .094 | 1.5  | 7      | .02    | --    | .8  | 50     |
| 146484           | <150   | 7      | 30     | 7      | .009 | 1.1  | 5      | .13    | --    | .7  | 30     |
| 145691           | 150    | 10     | 50     | 15     | .010 | 1.2  | 7      | .07    | --    | 1.2 | 30     |
| 146019           | <150   | 15     | 70     | 10     | .015 | 1.6  | 7      | .04    | --    | 1.0 | 50     |
| 145687           | <150   | 7      | 30     | 7      | .016 | 1.4  | 7      | .08    | --    | 1.3 | 30     |
| 146426           | <150   | 10     | 50     | 7      | .040 | 1.4  | 7      | .03    | --    | 1.1 | 30     |
| 145970           | 150    | 10     | 50     | 20     | .014 | 1.7  | 7      | .04    | 6.26  | 1.1 | 50     |
| 146455           | <150   | 20     | 70     | 10     | .020 | 2.9  | 15     | .03    | --    | 1.2 | 50     |
| 146370           | 150    | 15     | 50     | 10     | .009 | 1.5  | 7      | .08    | --    | 1.6 | 50     |
| 146553           | <150   | 7      | 50     | 7      | .023 | 1.5  | 7      | .04    | --    | 1.3 | 30     |
| Lafayette County |        |        |        |        |      |      |        |        |       |     |        |
| 146143           | <150   | 15     | 70     | 20     | .049 | 2.4  | 15     | .04    | --    | 1.9 | 50     |
| 145737           | <150   | 7      | 70     | 10     | .028 | 2.3  | 15     | .02    | --    | 2.0 | 30     |
| 146016           | 150    | 10     | 70     | 20     | .053 | 2.5  | 15     | .04    | --    | 2.0 | 50     |
| 146386           | <150   | 7      | 50     | 15     | .018 | 2.2  | 15     | .03    | --    | 2.1 | 30     |
| 145518           | <150   | 10     | 70     | 15     | .600 | 2.3  | 15     | .05    | --    | 1.9 | 70     |
| 145871           | <150   | 10     | 70     | 15     | .040 | 2.9  | 20     | .04    | 3.59  | 2.0 | 50     |
| 146310           | <150   | 7      | 70     | 15     | .023 | 1.7  | 15     | .04    | --    | 1.7 | 50     |
| 145653           | <150   | 7      | 70     | 15     | .140 | 2.0  | 15     | .05    | --    | 1.7 | 30     |
| 146182           | 150    | 15     | 70     | 20     | .033 | 2.7  | 15     | .02    | --    | 1.7 | 50     |
| 145507           | 150    | 10     | 70     | 15     | .150 | 2.3  | 15     | .04    | --    | 2.0 | 70     |
| Lawrence County  |        |        |        |        |      |      |        |        |       |     |        |
| 145728           | 150    | 20     | 50     | 10     | .019 | 2.4  | 7      | .04    | --    | 1.1 | 50     |
| 146477           | <150   | 7      | 50     | 10     | .008 | 2.3  | 10     | .02    | --    | 1.0 | 30     |
| 145581           | 150    | 30     | 50     | 7      | .032 | 1.9  | 7      | .03    | --    | 1.0 | 50     |
| 145952           | 150    | 10     | 70     | 20     | .018 | 1.7  | 10     | .01    | --    | 1.4 | 70     |
| 145525           | <150   | 10     | 70     | 10     | .240 | 1.9  | 10     | .04    | --    | 1.2 | 50     |
| 146489           | <150   | 10     | 70     | 7      | .007 | 1.7  | 7      | .01    | --    | 1.1 | 30     |
| 145902           | <150   | 15     | 70     | 7      | .027 | 2.2  | 10     | .02    | --    | 1.2 | 50     |
| 146309           | <150   | 7      | 50     | 15     | .013 | 1.3  | 10     | .03    | --    | 1.0 | 50     |
| 145912           | 150    | 10     | 50     | 30     | .011 | 1.5  | 7      | .04    | 5.83  | 1.3 | 50     |
| 145831           | 150    | 15     | 70     | 15     | .017 | 2.3  | 10     | .04    | --    | 1.6 | 30     |
| Lewis County     |        |        |        |        |      |      |        |        |       |     |        |
| 145857           | <150   | 10     | 70     | 15     | .024 | 2.7  | 15     | .02    | --    | 1.6 | 50     |
| 146586           | <150   | 10     | 70     | 15     | .031 | 2.6  | 15     | .04    | --    | 1.6 | 30     |
| 145490           | <150   | 7      | 50     | 10     | .020 | 1.7  | 10     | .06    | --    | 1.6 | 30     |
| 146080           | 150    | 10     | 70     | 15     | .022 | 2.3  | 15     | .06    | --    | 1.3 | 50     |
| 145470           | 150    | 15     | 70     | 15     | .029 | 3.0  | 15     | .05    | --    | 1.6 | 50     |
| 146014           | 150    | 10     | 70     | 15     | .022 | 2.2  | 15     | .04    | --    | 1.8 | 50     |
| 145876           | <150   | 15     | 50     | 10     | .022 | 3.0  | 15     | .04    | 3.59  | 1.5 | 30     |
| 145900           | <150   | 10     | 30     | 10     | .032 | 2.7  | 15     | .02    | --    | 1.4 | 30     |
| 146474           | <150   | 7      | 70     | 10     | .021 | 2.2  | 15     | .02    | --    | 1.6 | 30     |
| 145956           | 150    | 15     | 70     | 50     | .040 | 3.8  | 20     | .04    | --    | 1.9 | 70     |

Table 3.--Locations and concentrations of frequently detected elements for agricultural soils of Missouri--continued

| Sample           | Li ppm | Mg % | Mn ppm | Na % | Nb ppm | Nd ppm | Ni ppm | P % | Pb ppm | Sc ppm | Se ppm |
|------------------|--------|------|--------|------|--------|--------|--------|-----|--------|--------|--------|
| Laclede County   |        |      |        |      |        |        |        |     |        |        |        |
| 145585           | 17     | .10  | 1,500  | .20  | <10    | 70     | 15     | .12 | 20     | 7      | .4     |
| 146484           | 16     | .10  | 500    | .19  | <10    | <70    | 10     | .04 | 15     | 5      | .4     |
| 145691           | 23     | .14  | 700    | .27  | <10    | <70    | 10     | .03 | 15     | 7      | .3     |
| 146019           | 20     | .15  | 700    | .27  | 10     | 70     | 15     | .04 | 30     | 7      | <.1    |
| 145687           | 19     | .13  | 2,000  | .35  | <10    | <70    | 10     | .06 | 15     | 5      | .2     |
| 146426           | 22     | .17  | 700    | .32  | 10     | <70    | 7      | .04 | 20     | 7      | .5     |
| 145970           | 19     | .22  | 1,000  | .22  | 10     | 70     | 15     | .04 | 15     | 7      | <.1    |
| 146455           | 25     | .30  | 1,000  | .35  | <10    | 70     | 15     | .02 | 30     | 7      | .5     |
| 146370           | 19     | .16  | 1,000  | .35  | <10    | 70     | 15     | .04 | 30     | 7      | .1     |
| 146553           | 22     | .21  | 700    | .49  | <10    | 70     | 7      | .09 | 15     | 7      | .4     |
| Lafayette County |        |      |        |      |        |        |        |     |        |        |        |
| 146143           | 24     | .42  | 1,000  | .70  | 10     | 70     | 20     | .09 | 15     | 10     | <.1    |
| 145737           | 22     | .40  | 500    | .79  | <10    | <70    | 20     | .08 | 15     | 7      | <.1    |
| 146016           | 23     | .43  | 1,000  | .78  | 10     | 70     | 20     | .09 | 20     | 10     | .3     |
| 146386           | 25     | .42  | 500    | .67  | <10    | 70     | 15     | .09 | 15     | 7      | .5     |
| 145518           | 21     | .42  | 700    | .67  | 10     | 70     | 30     | .07 | 15     | 10     | .6     |
| 145871           | 26     | .48  | 700    | .76  | 10     | 70     | 30     | .10 | 15     | 15     | .2     |
| 146310           | 20     | .32  | 500    | .86  | 10     | 70     | 15     | .09 | 20     | 7      | .4     |
| 145653           | 20     | .29  | 700    | .78  | 10     | <70    | 15     | .06 | 20     | 7      | .7     |
| 146182           | 30     | .47  | 700    | .64  | 10     | 70     | 30     | .09 | 20     | 10     | .3     |
| 145507           | 23     | .41  | 1,000  | .67  | <10    | 70     | 30     | .08 | 15     | 10     | .6     |
| Lawrence County  |        |      |        |      |        |        |        |     |        |        |        |
| 145728           | 21     | .18  | 1,500  | .33  | <10    | 70     | 15     | .04 | 30     | 7      | .5     |
| 146477           | 21     | .17  | 700    | .35  | 10     | <70    | 7      | .03 | 20     | 7      | .7     |
| 145581           | 22     | .14  | 2,000  | .31  | 15     | 70     | 15     | .02 | 30     | 7      | .4     |
| 145952           | 21     | .18  | 1,000  | .33  | 10     | 70     | 15     | .09 | 15     | 7      | <.1    |
| 145525           | 21     | .18  | 1,500  | .40  | 10     | <70    | 7      | .05 | 20     | 7      | .5     |
| 146489           | 19     | .11  | 500    | .27  | 10     | <70    | 5      | .03 | 20     | 5      | .3     |
| 145902           | 23     | .19  | 700    | .49  | 15     | <70    | 10     | .09 | 30     | 7      | <.1    |
| 146309           | 21     | .16  | 1,000  | .27  | 10     | 70     | 10     | .04 | 20     | 7      | .1     |
| 145912           | 23     | .17  | 1,500  | .22  | 15     | 70     | 10     | .09 | 20     | 7      | .1     |
| 145831           | 23     | .21  | 1,000  | .22  | 10     | <70    | 15     | .06 | 20     | 7      | .2     |
| Lewis County     |        |      |        |      |        |        |        |     |        |        |        |
| 145857           | 22     | .28  | 1,000  | .82  | 10     | 70     | 15     | .03 | 30     | 10     | .6     |
| 146586           | 25     | .34  | 1,000  | .77  | <10    | 70     | 20     | .04 | 20     | 7      | 1.5    |
| 145490           | 18     | .25  | 1,000  | .68  | <10    | <70    | 15     | .10 | 15     | 7      | .3     |
| 146080           | 25     | .29  | 700    | .60  | 10     | 70     | 15     | .04 | 15     | 10     | .4     |
| 145470           | 25     | .42  | 700    | .68  | <10    | 70     | 15     | .06 | 20     | 7      | .8     |
| 146014           | 18     | .31  | 1,000  | .82  | <10    | 70     | 15     | .09 | 30     | 10     | .2     |
| 145876           | 24     | .36  | 1,500  | .72  | 10     | <70    | 15     | .05 | 30     | 7      | .8     |
| 145900           | 22     | .28  | 1,000  | .64  | <10    | <70    | 15     | .09 | 20     | 10     | .2     |
| 146474           | 22     | .33  | 500    | .71  | <10    | <70    | 15     | .09 | 15     | 10     | .2     |
| 145956           | 39     | .62  | 700    | .49  | <10    | 70     | 50     | .09 | 20     | 15     | .2     |

Table 3.--Locations and concentrations of frequently detected elements for agricultural soils of Missouri--continued

| Sample           | Si % | Sr ppm | Th ppm | Ti % | U ppm | V ppm | Y ppm | Yb ppm | Zn ppm | Zr ppm |
|------------------|------|--------|--------|------|-------|-------|-------|--------|--------|--------|
| Laclede County   |      |        |        |      |       |       |       |        |        |        |
| 145585           | 37   | 70     | --     | .30  | --    | 70    | 50    | 3.0    | 30     | 300    |
| 146484           | 38   | 70     | 8.28   | .30  | 3.31  | 30    | 30    | 3.0    | 24     | 300    |
| 145691           | 39   | 70     | --     | .50  | --    | 50    | 50    | 3.0    | 22     | 700    |
| 146019           | 37   | 100    | --     | .30  | --    | 70    | 30    | 3.0    | 25     | 500    |
| 145687           | 38   | 70     | --     | .30  | --    | 30    | 30    | 3.0    | 33     | 500    |
| 146426           | 38   | 70     | 10.85  | .50  | 3.69  | 70    | 30    | 3.0    | 30     | 700    |
| 145970           | 36   | 70     | --     | .50  | --    | 70    | 30    | 3.0    | 30     | 500    |
| 146455           | 35   | 100    | --     | .50  | --    | 100   | 30    | 3.0    | 34     | 500    |
| 146370           | 37   | 100    | --     | .30  | --    | 70    | 30    | 3.0    | 214    | 300    |
| 146553           | 36   | 70     | --     | .30  | --    | 30    | 30    | 3.0    | 31     | 200    |
| Lafayette County |      |        |        |      |       |       |       |        |        |        |
| 146143           | 34   | 150    | 12.48  | .30  | 4.14  | 70    | 30    | 5.0    | 67     | 300    |
| 145737           | 35   | 150    | --     | .30  | --    | 70    | 50    | 5.0    | 97     | 300    |
| 146016           | 31   | 150    | --     | .30  | --    | 70    | 30    | 3.0    | 73     | 300    |
| 146386           | 31   | 150    | --     | .30  | --    | 70    | 30    | 3.0    | 61     | 200    |
| 145518           | 32   | 150    | 15.36  | .30  | 3.84  | 100   | 50    | 5.0    | 72     | 300    |
| 145871           | 34   | 150    | --     | .30  | --    | 100   | 30    | 3.0    | 66     | 300    |
| 146310           | 34   | 200    | --     | .30  | --    | 70    | 30    | 3.0    | 56     | 200    |
| 145653           | 35   | 150    | --     | .30  | --    | 70    | 30    | 3.0    | 62     | 300    |
| 146182           | 33   | 200    | --     | .30  | --    | 70    | 30    | 3.0    | 68     | 300    |
| 145507           | 32   | 150    | --     | .30  | --    | 100   | 50    | 3.0    | 86     | 500    |
| Lawrence County  |      |        |        |      |       |       |       |        |        |        |
| 145728           | 37   | 70     | --     | .50  | --    | 70    | 30    | 3.0    | 33     | 500    |
| 146477           | 38   | 70     | --     | .50  | --    | 70    | 30    | 3.0    | 30     | 700    |
| 145581           | 39   | 70     | --     | .50  | --    | 70    | 70    | 7.0    | 28     | 500    |
| 145952           | 35   | 70     | --     | .50  | 7.25  | 70    | 50    | 5.0    | 43     | 700    |
| 145525           | 37   | 70     | --     | .50  | --    | 70    | 50    | 3.0    | 34     | 500    |
| 146489           | 39   | 70     | --     | .50  | --    | 70    | 15    | 3.0    | 27     | 500    |
| 145902           | 34   | 70     | --     | .50  | --    | 70    | 50    | 5.0    | 39     | 500    |
| 146309           | 38   | 70     | 7.55   | .30  | 3.93  | 70    | 30    | 3.0    | 142    | 300    |
| 145912           | 36   | 70     | --     | .50  | --    | 50    | 70    | 7.0    | 74     | 700    |
| 145831           | 38   | 70     | --     | .50  | --    | 70    | 30    | 5.0    | 54     | 500    |
| Lewis County     |      |        |        |      |       |       |       |        |        |        |
| 145857           | 36   | 200    | 7.99   | .50  | 4.49  | 100   | 30    | 3.0    | 53     | 300    |
| 146586           | 34   | 150    | --     | .30  | --    | 70    | 30    | 3.0    | 53     | 300    |
| 145490           | 36   | 150    | --     | .30  | --    | 70    | 30    | 3.0    | 54     | 200    |
| 146080           | 34   | 150    | --     | .50  | --    | 70    | 30    | 3.0    | 46     | 300    |
| 145470           | 32   | 150    | --     | .30  | --    | 100   | 30    | 3.0    | 61     | 300    |
| 146014           | 31   | 150    | --     | .30  | --    | 100   | 30    | 3.0    | 57     | 300    |
| 145876           | 34   | 150    | --     | .30  | --    | 70    | 30    | 3.0    | 72     | 300    |
| 145900           | 35   | 150    | --     | .30  | --    | 70    | 30    | 3.0    | 48     | 300    |
| 146474           | 36   | 150    | 8.98   | .30  | 2.44  | 70    | 30    | 3.0    | 48     | 300    |
| 145956           | 28   | 150    | --     | .30  | --    | 150   | 50    | 5.0    | 111    | 300    |

Table 3.--Locations and concentrations of frequently detected elements for agricultural soils of Missouri--continued

| Sample            | Latitude | Longitude | Al % | As ppm | B ppm | Ba ppm | Be ppm | C %  | C org. % | C crb. % | Ca % |
|-------------------|----------|-----------|------|--------|-------|--------|--------|------|----------|----------|------|
| Lincoln County    |          |           |      |        |       |        |        |      |          |          |      |
| 146195            | 39 6 0   | 91 10 44  | 4    | 12.0   | 30    | 700    | <1.0   | .92  | .9       | .02      | .4   |
| 145785            | 39 6 28  | 91 14 45  | 4    | 12.0   | 30    | 500    | <1.0   | 1.16 | 1.1      | .02      | .4   |
| 145861            | 38 54 28 | 90 57 43  | 5    | 15.0   | 30    | 700    | 1.5    | 1.07 | 1.1      | .01      | .4   |
| 145744            | 38 55 58 | 90 46 1   | 4    | 6.3    | 30    | 700    | <1.0   | .80  | .7       | .07      | .6   |
| 146146            | 38 56 45 | 90 55 44  | 4    | 5.2    | 30    | 700    | <1.0   | .42  | .4       | .02      | .3   |
| 146406            | 38 56 13 | 91 5 45   | 4    | 18.0   | 20    | 700    | <1.0   | 1.11 | 1.1      | .03      | .4   |
| 146297            | 39 9 14  | 91 9 0    | 4    | 12.0   | 50    | 700    | 1.5    | 1.06 | 1.0      | .02      | .4   |
| 146282            | 39 6 0   | 90 58 30  | 4    | 12.0   | 30    | 700    | N      | 1.60 | 1.6      | .01      | .3   |
| 146074            | 39 6 28  | 91 6 0    | 4    | 18.0   | 30    | 700    | <1.0   | 1.14 | 1.1      | .02      | .4   |
| 145906            | 39 3 28  | 91 5 45   | 5    | 12.0   | 30    | 700    | 1.0    | .51  | .5       | .04      | .2   |
| Linn County       |          |           |      |        |       |        |        |      |          |          |      |
| 146504            | 39 46 58 | 93 10 58  | 5    | 9.4    | 20    | 500    | <1.0   | 1.59 | 1.5      | .05      | .4   |
| 146347            | 40 0 0   | 92 57 0   | 5    | 10.0   | 30    | 500    | N      | 1.42 | 1.4      | <.01     | .5   |
| 146240            | 39 45 0  | 92 58 58  | 4    | 7.6    | 30    | 300    | <1.0   | 1.42 | 1.4      | .02      | .3   |
| 145758            | 39 57 0  | 93 18 57  | 4    | 8.3    | 20    | 500    | N      | 1.63 | 1.6      | <.01     | .4   |
| 146548            | 39 43 58 | 93 6 57   | 4    | 7.1    | 30    | 700    | 1.0    | 1.91 | 1.8      | .09      | .8   |
| 145996            | 39 43 58 | 93 15 57  | 4    | 5.9    | 30    | 700    | 1.0    | 1.94 | 1.9      | .06      | .7   |
| 145670            | 39 52 1  | 93 10 58  | 4    | 9.3    | 30    | 700    | 1.0    | 3.05 | 3.0      | .07      | .6   |
| 146099            | 39 55 58 | 93 1 1    | 4    | 9.7    | 30    | 300    | <1.0   | 2.22 | 2.2      | .02      | .6   |
| 146013            | 39 51 0  | 93 6 0    | 4    | 6.7    | 30    | 300    | N      | 1.56 | 1.5      | .02      | .4   |
| 145791            | 39 49 1  | 93 1 1    | 5    | 9.9    | 30    | 700    | 1.0    | 2.54 | 1.9      | .61      | 2.6  |
| Livingston County |          |           |      |        |       |        |        |      |          |          |      |
| 146001            | 39 55 1  | 93 43 1   | 5    | 15.0   | 30    | 700    | 1.0    | 1.65 | 1.6      | .01      | .6   |
| 146567            | 39 49 58 | 93 42 0   | 5    | 12.0   | 30    | 700    | <1.0   | 1.84 | 1.6      | .26      | 1.3  |
| 145719            | 39 46 58 | 93 37 1   | 5    | 14.0   | 30    | 700    | <1.0   | 2.94 | 2.9      | .05      | .9   |
| 145457            | 39 49 1  | 93 30 57  | 7    | 21.0   | 50    | 500    | 1.5    | 1.52 | 1.4      | .08      | .2   |
| 145584            | 39 45 0  | 93 27 0   | 4    | 10.0   | 50    | 700    | 1.5    | 1.49 | 1.4      | .09      | .4   |
| 146264            | 39 43 1  | 93 29 31  | 6    | 11.0   | 30    | 700    | 1.5    | 1.44 | 1.4      | .03      | .5   |
| 145625            | 39 40 58 | 93 27 0   | 4    | 7.4    | 50    | 700    | <1.0   | 2.09 | 1.9      | .22      | 1.2  |
| 146580            | 39 40 1  | 93 19 58  | 4    | 7.8    | 30    | 500    | 1.0    | 1.27 | 1.2      | .02      | .4   |
| 145632            | 39 40 58 | 93 37 58  | 5    | 11.0   | 30    | 500    | 1.0    | 1.51 | 1.5      | .03      | .4   |
| 145904            | 39 39 0  | 93 43 1   | 5    | 11.0   | 30    | 700    | 1.0    | 1.71 | 1.7      | <.01     | .5   |
| McDonald County   |          |           |      |        |       |        |        |      |          |          |      |
| 146040            | 36 43 30 | 94 29 31  | 2    | 4.9    | 30    | 300    | N      | .89  | .9       | .03      | .1   |
| 145623            | 36 37 30 | 94 31 30  | 2    | 4.5    | 30    | 500    | 1.0    | 2.60 | 2.5      | .06      | .1   |
| 146243            | 36 37 1  | 94 34 58  | 3    | 6.6    | 30    | 300    | N      | 1.89 | 1.9      | .02      | .2   |
| 146576            | 36 33 14 | 94 35 16  | 2    | 7.0    | 30    | 300    | N      | 1.48 | 1.5      | <.01     | .1   |
| 146118            | 36 31 58 | 94 23 45  | 3    | 4.6    | 50    | 300    | <1.0   | 1.41 | 1.4      | .03      | .1   |
| 146417            | 36 32 31 | 94 15 0   | 8    | 18.0   | 30    | 300    | 1.5    | 4.69 | 4.5      | .22      | 1.4  |
| 145822            | 36 31 30 | 94 4 58   | 3    | 4.5    | 50    | 500    | N      | 1.08 | 1.0      | .04      | .1   |
| 145511            | 36 39 0  | 94 9 0    | 3    | 4.5    | 50    | 700    | <1.0   | 1.53 | 1.4      | .08      | .1   |
| 145872            | 36 42 0  | 94 13 30  | 3    | 9.4    | 30    | 300    | 1.0    | 1.57 | 1.6      | .02      | <.1  |
| 145603            | 36 39 0  | 94 19 58  | 3    | 4.5    | 30    | 500    | <1.0   | 1.04 | 1.0      | .02      | .1   |



Table 3.--Locations and concentrations of frequently detected elements for agricultural soils of Missouri--continued

| Sample            | Ce ppm | Co ppm | Cr ppm | Cu ppm | F%   | Fe % | Ga ppm | Hg ppm | I ppm | K % | La ppm |
|-------------------|--------|--------|--------|--------|------|------|--------|--------|-------|-----|--------|
| Lincoln County    |        |        |        |        |      |      |        |        |       |     |        |
| 146195            | 150    | 7      | 70     | 10     | .024 | 2.2  | 15     | .03    | --    | 1.5 | 70     |
| 145785            | <150   | 15     | 70     | 15     | .021 | 2.9  | 15     | .03    | --    | 1.2 | 30     |
| 145861            | 150    | 20     | 70     | 15     | .029 | 3.1  | 15     | .04    | --    | 1.2 | 30     |
| 145744            | <150   | 7      | 30     | 7      | .018 | 1.6  | 7      | .03    | --    | 1.9 | 30     |
| 146146            | 150    | 10     | 70     | 10     | .020 | 1.5  | 10     | .03    | --    | 1.5 | 70     |
| 146406            | 150    | 10     | 70     | 7      | .016 | 2.9  | 15     | .03    | 4.42  | 1.2 | 50     |
| 146297            | 150    | 7      | 70     | 10     | .018 | 2.1  | 10     | .03    | --    | 1.4 | 50     |
| 146282            | 150    | 15     | 70     | 7      | .013 | 2.1  | 10     | .04    | --    | 1.4 | 50     |
| 146074            | <150   | 15     | 70     | 15     | .025 | 3.1  | 15     | .05    | --    | 1.5 | 50     |
| 145906            | <150   | 15     | 70     | 10     | .029 | 2.8  | 15     | .05    | --    | 1.8 | 50     |
| Linn County       |        |        |        |        |      |      |        |        |       |     |        |
| 146504            | <150   | 7      | 50     | 15     | .030 | 2.0  | 15     | .01    | --    | 1.2 | 30     |
| 146347            | <150   | 7      | 70     | 20     | .028 | 2.9  | 15     | .03    | --    | 1.1 | 30     |
| 146240            | <150   | 7      | 50     | 15     | .024 | 2.4  | 15     | .03    | --    | .9  | 30     |
| 145758            | <150   | 7      | 70     | 10     | .018 | 2.1  | 7      | .02    | --    | 1.2 | 30     |
| 146548            | <150   | 5      | 70     | 10     | .027 | 1.6  | 15     | .03    | --    | 1.6 | 30     |
| 145996            | 150    | 7      | 50     | 15     | .016 | 1.6  | 15     | .06    | --    | 1.7 | 50     |
| 145670            | <150   | 10     | 50     | 15     | .092 | 2.0  | 15     | .07    | --    | 1.5 | 30     |
| 146099            | <150   | 10     | 30     | 20     | .014 | 2.2  | 15     | .05    | --    | 1.0 | 30     |
| 146013            | <150   | 7      | 50     | 10     | .017 | 2.1  | 15     | .04    | --    | .9  | 30     |
| 145791            | <150   | 10     | 70     | 70     | .030 | 2.9  | 15     | .04    | 5.36  | 1.5 | 50     |
| Livingston County |        |        |        |        |      |      |        |        |       |     |        |
| 146001            | 150    | 10     | 70     | 20     | .032 | 3.2  | 15     | .04    | --    | 1.6 | 70     |
| 146567            | <150   | 10     | 70     | 15     | .029 | 2.3  | 15     | .02    | --    | 1.8 | 30     |
| 145719            | 150    | 15     | 70     | 20     | .029 | 2.9  | 15     | .07    | --    | 1.6 | 50     |
| 145457            | 150    | 15     | 70     | 20     | .045 | 4.0  | 20     | .07    | --    | 2.0 | 70     |
| 145584            | <150   | 7      | 50     | 15     | .096 | 2.2  | 15     | .03    | --    | 1.7 | 50     |
| 146264            | 150    | 7      | 70     | 20     | .040 | 3.1  | 20     | .01    | --    | 1.7 | 70     |
| 145625            | <150   | 7      | 50     | 15     | .021 | 1.7  | 10     | .03    | 4.80  | 1.7 | 30     |
| 146580            | <150   | 7      | 30     | 15     | .022 | 1.8  | 7      | .03    | --    | 1.3 | 30     |
| 145632            | <150   | 10     | 50     | 15     | .025 | 2.3  | 10     | .11    | --    | 1.2 | 30     |
| 145904            | 150    | 10     | 70     | 15     | .027 | 2.6  | 15     | .03    | --    | 1.7 | 50     |
| McDonald County   |        |        |        |        |      |      |        |        |       |     |        |
| 146040            | <150   | 7      | 30     | 7      | .300 | 1.4  | 5      | .04    | --    | .8  | 30     |
| 145623            | <150   | 7      | 50     | 7      | .008 | 1.1  | 5      | .14    | --    | 1.1 | 70     |
| 146243            | <150   | 10     | 50     | 10     | .017 | 1.7  | 7      | .02    | 6.53  | .9  | 50     |
| 146576            | <150   | 3      | 30     | 7      | .011 | 1.5  | 5      | .04    | --    | .7  | 30     |
| 146118            | <150   | 7      | 30     | 7      | .009 | 1.2  | 7      | .04    | --    | 1.1 | 50     |
| 146417            | <150   | 15     | 70     | 30     | .040 | 3.7  | 30     | .08    | --    | 3.7 | 50     |
| 145822            | <150   | 3      | 30     | 15     | .010 | 1.0  | 7      | .05    | --    | 1.2 | 30     |
| 145511            | <150   | 7      | 70     | 7      | .080 | 1.2  | 7      | .04    | --    | 1.2 | 50     |
| 145872            | <150   | 7      | 70     | 10     | .011 | 2.2  | 10     | .03    | --    | .7  | 30     |
| 145603            | <150   | 7      | 50     | 10     | .017 | 1.3  | 7      | .03    | --    | 1.2 | 30     |



Table 3.--Locations and concentrations of frequently detected elements for agricultural soils of Missouri--continued

| Sample            | Li ppm | Mg % | Mn ppm | Na % | Nb ppm | Nd ppm | Ni ppm | P %  | Pb ppm | Sc ppm | Se ppm |
|-------------------|--------|------|--------|------|--------|--------|--------|------|--------|--------|--------|
| Lincoln County    |        |      |        |      |        |        |        |      |        |        |        |
| 146195            | 19     | .24  | 700    | .84  | 10     | 70     | 15     | .04  | 15     | 7      | .3     |
| 145785            | 21     | .26  | 1,000  | .55  | 10     | <70    | 15     | .06  | 30     | 7      | .4     |
| 145861            | 24     | .30  | 1,500  | .56  | 10     | 70     | 20     | .05  | 30     | 10     | .4     |
| 145744            | 17     | .24  | 700    | .88  | <10    | <70    | 15     | .08  | 15     | 7      | .9     |
| 146146            | 20     | .22  | 700    | .68  | 10     | 70     | 15     | .04  | 15     | 7      | <.1    |
| 146406            | 24     | .32  | 1,000  | .66  | <10    | 70     | 7      | .04  | 15     | 7      | 1.0    |
| 146297            | 18     | .23  | 700    | .87  | 10     | 70     | 10     | .03  | 20     | 10     | .5     |
| 146282            | 20     | .22  | 1,500  | .79  | <10    | 70     | 7      | .04  | 20     | 7      | .3     |
| 146074            | 23     | .29  | 1,500  | .73  | <10    | 70     | 15     | .09  | 30     | 10     | .4     |
| 145906            | 26     | .42  | 700    | .70  | 10     | <70    | 15     | .04  | 20     | 10     | .2     |
| Linn County       |        |      |        |      |        |        |        |      |        |        |        |
| 146504            | 22     | .24  | 500    | .59  | <10    | <70    | 7      | .09  | 15     | 7      | .6     |
| 146347            | 29     | .28  | 150    | .42  | <10    | <70    | 15     | .09  | 15     | 7      | .5     |
| 146240            | 28     | .25  | 150    | .47  | <10    | <70    | 15     | .04  | 15     | 7      | .6     |
| 145758            | 24     | .26  | 300    | .54  | <10    | <70    | 10     | .06  | 15     | 7      | .3     |
| 146548            | 20     | .29  | 300    | .82  | <10    | 70     | 15     | .09  | 15     | 7      | .7     |
| 145996            | 18     | .27  | 1,000  | .83  | <10    | <70    | 15     | .09  | 20     | 10     | .3     |
| 145670            | 19     | .27  | 1,000  | .70  | <10    | 70     | 15     | .07  | 20     | 7      | .8     |
| 146099            | 21     | .21  | 500    | .42  | <10    | <70    | 15     | .04  | 50     | 7      | .1     |
| 146013            | 21     | .21  | 200    | .44  | <10    | <70    | 30     | .09  | 20     | 7      | <.1    |
| 145791            | 30     | .44  | 1,000  | .56  | <10    | <70    | 20     | .06  | 30     | 15     | 1.1    |
| Livingston County |        |      |        |      |        |        |        |      |        |        |        |
| 146001            | 25     | .48  | 1,000  | .75  | <10    | 70     | 15     | .09  | 30     | 10     | .3     |
| 146567            | 24     | .43  | 700    | .69  | <10    | 70     | 15     | .04  | 15     | 7      | .6     |
| 145719            | 26     | .45  | 1,000  | .66  | <10    | 70     | 20     | .07  | 30     | 10     | 1.2    |
| 145457            | 44     | .49  | 700    | .53  | <10    | 70     | 30     | .13  | 20     | 15     | 1.5    |
| 145584            | 18     | .24  | 1,500  | .96  | 10     | 70     | 15     | .07  | 20     | 7      | 1.0    |
| 146264            | 40     | .34  | 1,500  | .64  | <10    | 70     | 30     | .09  | 20     | 15     | .5     |
| 145625            | 20     | .36  | 500    | .79  | <10    | <70    | 10     | .07  | 15     | 7      | .5     |
| 146580            | 22     | .27  | 1,000  | .54  | <10    | <70    | 15     | .04  | 15     | 7      | .6     |
| 145632            | 26     | .33  | 300    | .61  | <10    | <70    | 10     | .06  | 15     | 7      | .7     |
| 145904            | 26     | .39  | 700    | .67  | <10    | 70     | 15     | .09  | 20     | 10     | <.1    |
| McDonald County   |        |      |        |      |        |        |        |      |        |        |        |
| 146040            | 21     | .13  | 500    | .23  | 10     | <70    | 5      | .04  | 15     | 7      | <.1    |
| 145623            | 19     | .13  | 1,000  | .28  | 15     | 70     | 7      | .02  | 20     | 5      | .3     |
| 146243            | 19     | .16  | 700    | .19  | 10     | 70     | 10     | .04  | 15     | 7      | .3     |
| 146576            | 19     | .10  | 300    | .23  | 10     | <70    | <5     | .02  | 15     | 5      | .1     |
| 146118            | 20     | .14  | 1,000  | .26  | 15     | 70     | 7      | .03  | 20     | 7      | .1     |
| 146417            | 33     | 1.09 | 700    | .13  | <10    | 70     | 70     | .04  | 30     | 15     | .6     |
| 145822            | 20     | .14  | 300    | .25  | 10     | <70    | 15     | .02  | 15     | 5      | <.1    |
| 145511            | 19     | .14  | 700    | .26  | 10     | 70     | 7      | .06  | 20     | 7      | .2     |
| 145872            | 20     | .13  | 300    | .24  | 10     | 70     | 10     | <.02 | 20     | 7      | .2     |
| 145603            | 20     | .11  | 700    | .28  | <10    | 70     | 15     | .03  | 15     | 7      | .2     |

Table 3.--Locations and concentrations of frequently detected elements for agricultural soils of Missouri--continued

| Sample            | Si % | Sr ppm | Th ppm | Ti % | U ppm | V ppm | Y ppm | Yb ppm | Zn ppm | Zr ppm |
|-------------------|------|--------|--------|------|-------|-------|-------|--------|--------|--------|
| Lincoln County    |      |        |        |      |       |       |       |        |        |        |
| 146195            | 37   | 200    | --     | .50  | --    | 100   | 30    | 3.0    | 37     | 300    |
| 145785            | 37   | 100    | --     | .50  | --    | 70    | 30    | 3.0    | 40     | 700    |
| 145861            | 36   | 150    | --     | .50  | --    | 100   | 30    | 3.0    | 49     | 500    |
| 145744            | 38   | 150    | --     | .30  | --    | 70    | 30    | 3.0    | 41     | 200    |
| 146146            | 37   | 150    | 13.03  | .30  | 3.47  | 70    | 30    | 3.0    | 37     | 500    |
| 146406            | 35   | 150    | --     | .30  | --    | 70    | 30    | 3.0    | 47     | 150    |
| 146297            | 36   | 200    | 10.28  | .50  | 4.44  | 150   | 50    | 3.0    | 39     | 500    |
| 146282            | 36   | 150    | --     | .50  | --    | 70    | 30    | 3.0    | 39     | 300    |
| 146074            | 33   | 150    | --     | .30  | --    | 100   | 30    | 5.0    | 49     | 300    |
| 145906            | 33   | 150    | --     | .30  | --    | 100   | 30    | 3.0    | 55     | 300    |
| Linn County       |      |        |        |      |       |       |       |        |        |        |
| 146504            | 36   | 100    | --     | .30  | --    | 70    | 30    | 3.0    | 39     | 200    |
| 146347            | 34   | 150    | 8.05   | .20  | 2.60  | 70    | 15    | 3.0    | 44     | 300    |
| 146240            | 34   | 150    | --     | .30  | --    | 70    | 20    | 3.0    | 34     | 150    |
| 145758            | 36   | 100    | --     | .30  | --    | 70    | 30    | 3.0    | 41     | 200    |
| 146548            | 35   | 150    | --     | .30  | --    | 70    | 30    | 3.0    | 61     | 300    |
| 145996            | 33   | 150    | --     | .30  | --    | 70    | 30    | 3.0    | 54     | 300    |
| 145670            | 34   | 150    | --     | .30  | --    | 70    | 30    | 3.0    | 175    | 300    |
| 146099            | 36   | 70     | --     | .30  | --    | 70    | 20    | 2.0    | 106    | 300    |
| 146013            | 33   | 70     | 6.37   | .30  | 2.80  | 70    | 30    | 3.0    | 30     | 200    |
| 145791            | 31   | 200    | --     | .50  | --    | 100   | 30    | 3.0    | 79     | 200    |
| Livingston County |      |        |        |      |       |       |       |        |        |        |
| 146001            | 30   | 200    | --     | .30  | --    | 150   | 30    | 3.0    | 62     | 300    |
| 146567            | 32   | 150    | --     | .30  | --    | 70    | 30    | 3.0    | 57     | 200    |
| 145719            | 32   | 150    | --     | .30  | --    | 150   | 30    | 3.0    | 81     | 200    |
| 145457            | 30   | 150    | --     | .50  | --    | 150   | 50    | 3.0    | 87     | 200    |
| 145584            | 36   | 150    | 12.13  | .50  | 4.00  | 70    | 50    | 5.0    | 42     | 300    |
| 146264            | 31   | 150    | --     | .30  | --    | 150   | 50    | 5.0    | 77     | 150    |
| 145625            | 33   | 150    | 10.05  | .30  | 3.75  | 70    | 30    | 3.0    | 64     | 300    |
| 146580            | 37   | 70     | --     | .30  | --    | 50    | 20    | 3.0    | 43     | 300    |
| 145632            | 34   | 100    | --     | .30  | --    | 70    | 30    | 3.0    | 49     | 300    |
| 145904            | 32   | 150    | --     | .30  | --    | 100   | 30    | 3.0    | 57     | 300    |
| McDonald County   |      |        |        |      |       |       |       |        |        |        |
| 146040            | 37   | 70     | --     | .50  | --    | 30    | 30    | 3.0    | 31     | 700    |
| 145623            | 35   | 70     | --     | .50  | --    | 30    | 50    | 5.0    | 39     | 300    |
| 146243            | 38   | 70     | --     | .30  | --    | 70    | 30    | 3.0    | 40     | 300    |
| 146576            | 39   | 50     | --     | .30  | --    | 30    | 30    | 5.0    | 28     | 700    |
| 146118            | 38   | 70     | --     | .30  | --    | 50    | 50    | 3.0    | 35     | 200    |
| 146417            | 24   | 100    | --     | .30  | --    | 150   | 30    | 3.0    | 112    | 70     |
| 145822            | 40   | 70     | --     | .50  | --    | 30    | 30    | 3.0    | 36     | 500    |
| 145511            | 37   | 70     | 8.60   | .70  | 3.86  | 50    | 50    | 3.0    | 40     | 700    |
| 145872            | 38   | 70     | --     | .50  | --    | 70    | 30    | 5.0    | 28     | 700    |
| 145603            | 39   | 70     | 9.00   | .50  | 3.96  | 50    | 30    | 3.0    | 29     | 700    |

Table 3.--Locations and concentrations of frequently detected elements for agricultural soils of Missouri

| Sample         | Latitude | Longitude | Al % | As ppm | B ppm | Ba ppm | Be ppm | C %  | C org. % | C crb. % | Ca % |
|----------------|----------|-----------|------|--------|-------|--------|--------|------|----------|----------|------|
| Macon County   |          |           |      |        |       |        |        |      |          |          |      |
| 146201         | 39 55 1  | 92 50 31  | 4    | 10.0   | 30    | 500    | N      | 1.32 | 1.3      | <.01     | .4   |
| 146519         | 39 43 30 | 92 49 1   | 5    | 9.5    | 20    | 300    | N      | 1.08 | 1.1      | <.01     | .4   |
| 145862         | 39 57 0  | 92 33 0   | 5    | 6.4    | 30    | 700    | N      | 3.05 | 3.0      | .02      | .6   |
| 146476         | 40 1 30  | 92 41 31  | 4    | 6.7    | <20   | 300    | <1.0   | 1.22 | 1.2      | .02      | .4   |
| 145498         | 39 37 30 | 92 33 0   | 5    | 9.3    | 50    | 700    | 1.0    | 1.48 | 1.5      | .02      | .4   |
| 145664         | 39 52 1  | 92 28 58  | 4    | 7.0    | 30    | 300    | <1.0   | 1.22 | 1.2      | .04      | .4   |
| 145477         | 39 56 31 | 92 22 1   | 4    | 9.3    | 30    | 500    | N      | 1.46 | 1.4      | .06      | .4   |
| 146439         | 39 46 30 | 92 19 58  | 5    | 9.8    | 20    | 300    | N      | 1.54 | 1.5      | .03      | .3   |
| 145553         | 39 37 58 | 92 24 0   | 5    | 21.0   | 30    | 700    | <1.0   | 1.61 | 1.6      | .04      | .4   |
| 146168         | 39 37 58 | 92 18 0   | 5    | 11.0   | 30    | 500    | 1.0    | .70  | .7       | .02      | .3   |
| Madison County |          |           |      |        |       |        |        |      |          |          |      |
| 145752         | 37 28 58 | 90 15 28  | 4    | 11.0   | 30    | 500    | <1.0   | .97  | 1.0      | <.01     | .1   |
| 146071         | 37 27 28 | 90 12 28  | 3    | 8.3    | 30    | 500    | 1.0    | 1.36 | 1.3      | .03      | .2   |
| 146153         | 37 25 1  | 90 19 1   | 3    | 7.0    | 30    | 500    | 1.0    | .96  | 1.0      | <.01     | .1   |
| 146017         | 37 22 30 | 90 22 30  | 2    | 6.5    | 30    | 300    | N      | .68  | .7       | <.01     | .1   |
| 145849         | 37 28 1  | 90 25 30  | 5    | 12.0   | 50    | 700    | 1.0    | .99  | .9       | .05      | .2   |
| 145855         | 37 30 0  | 90 17 31  | 3    | 8.1    | 30    | 700    | <1.0   | 1.01 | .8       | .18      | .6   |
| 146062         | 37 37 1  | 90 16 58  | 4    | 16.0   | 30    | 500    | 1.0    | 1.06 | 1.0      | .04      | .3   |
| 145894         | 37 34 30 | 90 24 0   | 4    | 7.8    | 30    | 1,000  | <1.0   | .77  | .7       | .03      | 2.3  |
| 145446         | 37 30 28 | 90 22 58  | 5    | 10.0   | 30    | 700    | 1.5    | 1.38 | 1.3      | .07      | .4   |
| 146197         | 37 29 31 | 90 28 58  | 4    | 6.0    | 30    | 700    | N      | 1.00 | 1.0      | .02      | .3   |
| Maries County  |          |           |      |        |       |        |        |      |          |          |      |
| 145717         | 38 4 15  | 91 46 1   | 4    | 16.0   | 30    | 700    | 1.0    | 1.23 | 1.2      | .08      | .2   |
| 145954         | 38 12 0  | 91 41 31  | 3    | 5.7    | 30    | 700    | N      | 1.09 | 1.1      | <.01     | .3   |
| 145644         | 38 10 1  | 91 46 58  | 4    | 11.0   | 50    | 700    | 1.0    | 1.39 | 1.3      | .08      | .1   |
| 146256         | 38 7 58  | 91 51 28  | 6    | 7.7    | 30    | 700    | 1.0    | .85  | .8       | <.01     | .2   |
| 145440         | 38 7 1   | 92 0 28   | 4    | 4.7    | 20    | 700    | 1.5    | 1.01 | .9       | .12      | .3   |
| 145461         | 38 14 31 | 91 58 58  | 3    | 4.0    | 50    | 700    | 1.0    | 1.03 | 1.0      | .08      | .3   |
| 146269         | 38 2 31  | 92 6 0    | 4    | 10.0   | 30    | 700    | <1.0   | 1.00 | 1.0      | .02      | .2   |
| 145595         | 38 9 0   | 92 9 0    | 4    | 6.6    | 30    | 700    | 1.0    | .80  | .7       | .11      | .2   |
| 146404         | 38 7 58  | 92 4 1    | 4    | 11.0   | 30    | 700    | N      | 1.37 | 1.4      | <.01     | .4   |
| 145941         | 38 2 31  | 92 1 58   | 4    | 9.0    | 30    | 700    | N      | .96  | 1.0      | .01      | .1   |
| Marion County  |          |           |      |        |       |        |        |      |          |          |      |
| 145491         | 39 53 31 | 91 49 1   | 5    | 14.0   | 30    | 500    | N      | 1.53 | 1.5      | .06      | .3   |
| 146353         | 39 52 30 | 91 39 0   | 4    | 7.4    | 30    | 300    | N      | 1.16 | 1.1      | .02      | .3   |
| 145513         | 39 51 43 | 91 31 1   | 5    | 7.4    | 50    | 700    | 1.0    | 1.23 | 1.2      | .08      | .6   |
| 146611         | 39 48 0  | 91 46 1   | 3    | 2.8    | 30    | 300    | N      | .61  | .6       | .02      | .4   |
| 145534         | 39 46 58 | 91 34 58  | 6    | 15.0   | 50    | 700    | 1.0    | 1.15 | 1.1      | .06      | .4   |
| 146266         | 39 47 31 | 91 27 0   | 5    | 8.2    | 30    | 700    | 1.0    | .93  | .9       | .03      | .4   |
| 145483         | 39 43 30 | 91 43 58  | 5    | 17.0   | 30    | 700    | <1.0   | 1.31 | 1.2      | .10      | .5   |
| 145960         | 39 45 0  | 91 40 1   | 4    | 8.1    | 50    | 1,000  | 1.0    | 1.54 | 1.5      | <.01     | .4   |
| 145916         | 39 43 30 | 91 33 43  | 4    | 11.0   | 30    | 700    | 1.0    | 1.24 | 1.2      | .04      | .5   |
| 146227         | 39 45 28 | 91 25 58  | 5    | 8.8    | 50    | 700    | <1.0   | 1.40 | 1.3      | .11      | .6   |

Table 3.--Locations and concentrations of frequently detected elements for agricultural soils of Missouri

| Sample         | Ce ppm | Co ppm | Cr ppm | Cu ppm | F%   | Fe % | Ga ppm | Hg ppm | I ppm | K % | La ppm |
|----------------|--------|--------|--------|--------|------|------|--------|--------|-------|-----|--------|
| Macon County   |        |        |        |        |      |      |        |        |       |     |        |
| 146201         | 150    | 7      | 50     | 15     | .022 | 2.2  | 15     | .04    | --    | 1.1 | 70     |
| 146519         | <150   | 7      | 50     | 10     | .024 | 2.3  | 10     | .01    | --    | 1.0 | 30     |
| 145862         | <150   | 10     | 70     | 15     | .027 | 2.6  | 15     | .05    | 4.18  | 1.2 | 50     |
| 146476         | <150   | 7      | 30     | 7      | .017 | 1.7  | 7      | .02    | --    | 1.1 | 30     |
| 145498         | 150    | 10     | 70     | 15     | .190 | 2.1  | 15     | .04    | --    | 1.2 | 70     |
| 145664         | N      | 7      | 50     | 7      | .092 | 2.0  | 10     | .02    | --    | 1.4 | 30     |
| 145477         | <150   | 7      | 50     | 15     | .022 | 2.0  | 10     | .04    | --    | 1.2 | 30     |
| 146439         | <150   | 7      | 50     | 15     | .028 | 2.2  | 10     | .03    | --    | 1.1 | 30     |
| 145553         | <150   | 15     | 70     | 15     | .082 | 3.3  | 15     | .12    | --    | 1.5 | 50     |
| 146168         | <150   | 15     | 50     | 20     | .029 | 2.9  | 15     | .03    | --    | 1.1 | 30     |
| Madison County |        |        |        |        |      |      |        |        |       |     |        |
| 145752         | <150   | 7      | 50     | 10     | .022 | 2.4  | 10     | .04    | 4.53  | 1.3 | 30     |
| 146071         | 150    | 15     | 50     | 15     | .013 | 1.9  | 10     | .11    | --    | 1.3 | 50     |
| 146153         | <150   | 15     | 30     | 10     | .020 | 1.7  | 7      | .04    | --    | 1.4 | 50     |
| 146017         | 150    | 10     | 30     | 20     | .013 | 1.9  | 7      | .05    | --    | .7  | 30     |
| 145849         | <150   | 20     | 70     | 20     | .028 | 2.9  | 15     | .06    | --    | 1.7 | 50     |
| 145855         | 150    | 10     | 70     | 20     | .018 | 2.0  | 15     | .05    | --    | 1.5 | 50     |
| 146062         | <150   | 20     | 70     | 20     | .023 | 2.7  | 15     | .05    | --    | 1.5 | 50     |
| 145894         | <150   | 20     | 70     | 7      | .026 | 2.4  | 15     | .02    | --    | 2.7 | 50     |
| 145446         | 150    | 20     | 70     | 50     | .048 | 2.9  | 15     | .07    | --    | 1.5 | 70     |
| 146197         | 150    | 10     | 30     | 15     | .015 | 2.1  | 15     | .04    | --    | 2.0 | 50     |
| Maries County  |        |        |        |        |      |      |        |        |       |     |        |
| 145717         | <150   | 20     | 70     | 10     | .031 | 2.8  | 10     | .05    | --    | 1.3 | 50     |
| 145954         | 150    | 7      | 70     | 20     | .017 | 1.5  | 10     | .04    | --    | 1.5 | 50     |
| 145644         | <150   | 15     | 70     | 10     | .021 | 2.2  | 10     | .07    | --    | 1.2 | 50     |
| 146256         | 150    | 15     | 70     | 10     | .027 | 2.0  | 15     | .05    | --    | 1.8 | 50     |
| 145440         | <150   | 7      | 50     | 10     | .028 | 1.5  | 10     | .06    | --    | 1.5 | 50     |
| 145461         | 150    | 7      | 50     | 10     | .016 | 1.2  | 7      | .04    | 4.08  | 1.7 | 50     |
| 146269         | <150   | 15     | 70     | 10     | .021 | 2.0  | 10     | .03    | --    | .7  | 30     |
| 145595         | <150   | 10     | 70     | 10     | .028 | 1.8  | 10     | .02    | --    | 1.8 | 50     |
| 146404         | <150   | 7      | 50     | 10     | .004 | 2.3  | 15     | .03    | --    | 1.3 | 30     |
| 145941         | 150    | 10     | 70     | 10     | .019 | 1.9  | 15     | .04    | --    | 1.6 | 50     |
| Marion County  |        |        |        |        |      |      |        |        |       |     |        |
| 145491         | <150   | 10     | 70     | 15     | .026 | 2.2  | 10     | .05    | --    | 1.2 | 30     |
| 146353         | <150   | 7      | 30     | 15     | .014 | 1.8  | 10     | .03    | --    | 1.2 | 30     |
| 145513         | <150   | 10     | 70     | 20     | .190 | 2.0  | 10     | .05    | --    | 1.9 | 50     |
| 146611         | <150   | 5      | 30     | 7      | .018 | .8   | <5     | .04    | --    | 1.2 | 30     |
| 145534         | 150    | 15     | 70     | 15     | .094 | 2.7  | 15     | .04    | --    | 1.5 | 70     |
| 146266         | 150    | 7      | 50     | 15     | .023 | 2.2  | 15     | .03    | --    | 1.9 | 50     |
| 145483         | <150   | 10     | 70     | 15     | .029 | 3.1  | 15     | .04    | --    | 1.5 | 50     |
| 145960         | <150   | 15     | 70     | 30     | .023 | 2.1  | 15     | .04    | --    | 1.9 | 70     |
| 145916         | <150   | 7      | 50     | 15     | .020 | 2.1  | 10     | .02    | --    | 1.6 | 30     |
| 146227         | 150    | 7      | 70     | 20     | .026 | 2.4  | 15     | .03    | 4.82  | 1.9 | 50     |

Table 3.--Locations and concentrations of frequently detected elements for agricultural soils of Missouri

| Sample         | Li ppm | Mg % | Mn ppm | Na % | Nb ppm | Nd ppm | Ni ppm | P % | Pb ppm | Sc ppm | Se ppm |
|----------------|--------|------|--------|------|--------|--------|--------|-----|--------|--------|--------|
| Macon County   |        |      |        |      |        |        |        |     |        |        |        |
| 146201         | 27     | .27  | 300    | .47  | <10    | 70     | 15     | .04 | 20     | 7      | .4     |
| 146519         | 26     | .25  | 150    | .45  | <10    | <70    | 15     | .04 | 15     | 7      | .4     |
| 145862         | 24     | .30  | 500    | .53  | <10    | 70     | 15     | .08 | 30     | 10     | .7     |
| 146476         | 22     | .21  | 300    | .53  | <10    | <70    | 10     | .04 | 15     | 7      | .6     |
| 145498         | 24     | .31  | 300    | .65  | <10    | 70     | 15     | .03 | 20     | 10     | .4     |
| 145664         | 22     | .22  | 200    | .57  | <10    | <70    | 15     | .06 | 15     | 7      | .4     |
| 145477         | 21     | .25  | 300    | .50  | <10    | <70    | 7      | .06 | 15     | 7      | .5     |
| 146439         | 24     | .27  | 200    | .47  | <10    | <70    | 10     | .04 | 20     | 7      | .6     |
| 145553         | 25     | .33  | 1,500  | .68  | <10    | 70     | 15     | .06 | 30     | 10     | .7     |
| 146168         | 32     | .39  | 300    | .42  | <10    | 70     | 20     | .04 | 15     | 10     | .3     |
| Madison County |        |      |        |      |        |        |        |     |        |        |        |
| 145752         | 26     | .24  | 300    | .32  | <10    | <70    | 10     | .02 | 30     | 7      | .3     |
| 146071         | 19     | .14  | 1,500  | .32  | 10     | 70     | 15     | .04 | 20     | 7      | <.1    |
| 146153         | 20     | .16  | 1,500  | .30  | <10    | 70     | 15     | .04 | 20     | 7      | .2     |
| 146017         | 14     | .13  | 1,500  | .14  | <10    | 70     | 15     | .09 | 15     | 7      | <.1    |
| 145849         | 25     | .28  | 1,500  | .30  | <10    | <70    | 30     | .02 | 30     | 7      | .3     |
| 145855         | 20     | .42  | 1,500  | .47  | 10     | 70     | 15     | .03 | 30     | 7      | .2     |
| 146062         | 23     | .26  | 1,500  | .39  | 10     | 70     | 20     | .04 | 150    | 10     | .2     |
| 145894         | 20     | .25  | 1,000  | .44  | 10     | 70     | 15     | .04 | 15     | 10     | <.1    |
| 145446         | 25     | .26  | 3,000  | .27  | <10    | 70     | 30     | .08 | 70     | 10     | .4     |
| 146197         | 14     | .16  | 1,000  | .43  | <10    | 70     | 15     | .04 | 100    | 7      | <.1    |
| Maries County  |        |      |        |      |        |        |        |     |        |        |        |
| 145717         | 22     | .30  | 1,500  | .54  | <10    | 70     | 15     | .04 | 30     | 7      | .8     |
| 145954         | 18     | .22  | 700    | .73  | 10     | 70     | 15     | .09 | 20     | 7      | <.1    |
| 145644         | 20     | .17  | 1,000  | .56  | <10    | 70     | 15     | .05 | 20     | 7      | .8     |
| 146256         | 28     | .27  | 1,500  | .49  | 10     | 70     | 15     | .03 | 20     | 7      | .2     |
| 145440         | 22     | .26  | 700    | .39  | <10    | 70     | 15     | .07 | 15     | 7      | .2     |
| 145461         | 18     | .18  | 1,000  | .62  | 10     | 70     | 15     | .10 | 15     | 7      | .3     |
| 146269         | 26     | .26  | 1,000  | .53  | 10     | 70     | 7      | .03 | 30     | 7      | .4     |
| 145595         | 22     | .30  | 1,000  | .50  | 10     | 70     | 15     | .05 | 15     | 7      | .3     |
| 146404         | 22     | .23  | 1,000  | .47  | <10    | 70     | 7      | .09 | 15     | 7      | .3     |
| 145941         | 23     | .23  | 700    | .50  | 10     | 70     | 7      | .04 | 30     | 7      | <.1    |
| Marion County  |        |      |        |      |        |        |        |     |        |        |        |
| 145491         | 24     | .31  | 1,000  | .55  | <10    | <70    | 15     | .05 | 20     | 7      | .2     |
| 146353         | 21     | .23  | 300    | .50  | <10    | <70    | 15     | .09 | 15     | 7      | .2     |
| 145513         | 17     | .34  | 1,000  | .89  | <10    | 70     | 30     | .08 | 15     | 10     | .6     |
| 146611         | 12     | .11  | 300    | .62  | <10    | N      | 5      | .04 | 15     | <5     | .4     |
| 145534         | 22     | .34  | 1,500  | .73  | 10     | 70     | 15     | .05 | 30     | 10     | .7     |
| 146266         | 22     | .32  | 1,500  | .93  | 10     | 70     | 15     | .09 | 15     | 10     | <.1    |
| 145483         | 23     | .30  | 700    | .68  | <10    | 70     | 15     | .06 | 30     | 10     | .7     |
| 145960         | 21     | .31  | 1,500  | .70  | 10     | 70     | 20     | .04 | 30     | 10     | <.1    |
| 145916         | 19     | .24  | 700    | .89  | 10     | 70     | 7      | .09 | 20     | 7      | .2     |
| 146227         | 21     | .37  | 1,500  | .76  | <10    | 70     | 15     | .04 | 15     | 10     | .2     |



Table 3.--Locations and concentrations of frequently detected elements for agricultural soils of Missouri

| Sample         | Si % | Sr ppm | Th ppm | Ti % | U ppm | V ppm | Y ppm | Yb ppm | Zn ppm | Zr ppm |
|----------------|------|--------|--------|------|-------|-------|-------|--------|--------|--------|
| Macon County   |      |        |        |      |       |       |       |        |        |        |
| 146201         | 37   | 150    | --     | .30  | --    | 70    | 30    | 3.0    | 41     | 300    |
| 146519         | 36   | 150    | --     | .30  | --    | 70    | 20    | 2.0    | 32     | 200    |
| 145862         | 34   | 150    | --     | .30  | --    | 100   | 30    | 3.0    | 53     | 200    |
| 146476         | 38   | 100    | --     | .30  | --    | 50    | 15    | 2.0    | 34     | 300    |
| 145498         | 33   | 150    | --     | .50  | --    | 100   | 30    | 3.0    | 39     | 300    |
| 145664         | 36   | 100    | --     | .30  | --    | 70    | 20    | 2.0    | 48     | 200    |
| 145477         | 35   | 100    | 7.87   | .30  | 3.68  | 70    | 30    | 3.0    | 42     | 500    |
| 146439         | 35   | 70     | --     | .30  | --    | 70    | 30    | 3.0    | 38     | 300    |
| 145553         | 32   | 150    | 15.19  | .30  | 4.41  | 150   | 30    | 3.0    | 54     | 300    |
| 146168         | 34   | 100    | --     | .30  | --    | 70    | 30    | 3.0    | 55     | 300    |
| Madison County |      |        |        |      |       |       |       |        |        |        |
| 145752         | 37   | 70     | --     | .30  | --    | 70    | 30    | 3.0    | 46     | 300    |
| 146071         | 38   | 70     | --     | .50  | --    | 50    | 30    | 3.0    | 47     | 500    |
| 146153         | 35   | 70     | --     | .30  | --    | 70    | 70    | 3.0    | 22     | 300    |
| 146017         | 36   | 30     | 4.92   | .20  | 3.09  | 50    | 30    | 3.0    | 45     | 200    |
| 145849         | 36   | 150    | --     | .50  | --    | 70    | 30    | 3.0    | 54     | 500    |
| 145855         | 38   | 100    | 9.87   | .50  | 4.07  | 50    | 30    | 5.0    | 37     | 500    |
| 146062         | 35   | 100    | --     | .50  | --    | 70    | 30    | 5.0    | 38     | 500    |
| 145894         | 35   | 100    | --     | .50  | --    | 100   | 30    | 3.0    | 44     | 300    |
| 145446         | 35   | 70     | --     | .50  | --    | 70    | 50    | 5.0    | 73     | 300    |
| 146197         | 37   | 70     | --     | .30  | --    | 50    | 70    | 5.0    | 44     | 500    |
| Maries County  |      |        |        |      |       |       |       |        |        |        |
| 145717         | 35   | 100    | --     | .30  | --    | 70    | 50    | 5.0    | 43     | 300    |
| 145954         | 35   | 150    | --     | .30  | --    | 70    | 30    | 3.0    | 31     | 500    |
| 145644         | 35   | 150    | --     | .30  | --    | 70    | 30    | 3.0    | 32     | 300    |
| 146256         | 35   | 150    | --     | .50  | --    | 70    | 30    | 3.0    | 44     | 300    |
| 145440         | 37   | 70     | --     | .30  | --    | 70    | 30    | 3.0    | 40     | 300    |
| 145461         | 38   | 100    | --     | .50  | --    | 50    | 50    | 5.0    | 58     | 500    |
| 146269         | 38   | 100    | 9.74   | .50  | 4.10  | 70    | 30    | 3.0    | 47     | 500    |
| 145595         | 38   | 100    | --     | .50  | --    | 70    | 30    | 3.0    | 40     | 300    |
| 146404         | 37   | 100    | --     | .30  | --    | 70    | 30    | 3.0    | 34     | 150    |
| 145941         | 35   | 100    | 10.05  | .50  | 4.12  | 70    | 30    | 3.0    | 38     | 500    |
| Marion County  |      |        |        |      |       |       |       |        |        |        |
| 145491         | 33   | 100    | --     | .30  | --    | 70    | 30    | 3.0    | 53     | 300    |
| 146353         | 38   | 150    | --     | .30  | --    | 70    | 20    | 2.0    | 43     | 300    |
| 145513         | 34   | 150    | --     | .50  | --    | 70    | 50    | 5.0    | 52     | 700    |
| 146611         | 40   | 70     | --     | .30  | --    | 20    | 15    | 2.0    | 22     | 300    |
| 145534         | 34   | 150    | --     | .50  | --    | 100   | 30    | 3.0    | 51     | 300    |
| 146266         | 35   | 150    | --     | .50  | --    | 70    | 30    | 3.0    | 53     | 500    |
| 145483         | 34   | 150    | --     | .30  | --    | 100   | 30    | 3.0    | 54     | 300    |
| 145960         | 33   | 200    | --     | .30  | --    | 100   | 50    | 5.0    | 58     | 300    |
| 145916         | 34   | 150    | 8.14   | .50  | 4.04  | 70    | 30    | 3.0    | 37     | 500    |
| 146227         | 35   | 150    | 10.39  | .30  | 3.74  | 100   | 30    | 3.0    | 54     | 300    |



Table 3.--Locations and concentrations of frequently detected elements for agricultural soils of Missouri--continued

| Sample             | Latitude | Longitude | Al % | As ppm | B ppm | Ba ppm | Be ppm | C %  | C org. % | C crb. % | Ca % |
|--------------------|----------|-----------|------|--------|-------|--------|--------|------|----------|----------|------|
| Mercer County      |          |           |      |        |       |        |        |      |          |          |      |
| 146180             | 40 28 58 | 93 42 0   | 5    | 9.4    | 30    | 700    | <1.0   | 1.31 | 1.3      | <.01     | .4   |
| 146091             | 40 34 1  | 93 33 0   | 6    | 14.0   | 30    | 1,000  | 1.0    | 2.64 | 2.6      | .01      | .8   |
| 146589             | 40 28 58 | 93 24 0   | 4    | 6.2    | <20   | 300    | N      | 1.82 | 1.8      | .05      | .5   |
| 145763             | 40 27 0  | 93 30 0   | 4    | 6.9    | 20    | 500    | <1.0   | 1.46 | 1.4      | .02      | .5   |
| 146541             | 40 25 58 | 93 37 1   | 4    | 9.4    | 30    | 500    | 1.0    | 1.29 | 1.3      | .01      | .4   |
| 145516             | 40 22 58 | 93 40 1   | 5    | 7.0    | 30    | 700    | 1.0    | 3.02 | 2.9      | .10      | .5   |
| 145545             | 40 22 58 | 93 27 0   | 5    | 8.9    | 30    | 300    | <1.0   | 2.27 | 2.1      | .17      | .9   |
| 145697             | 40 18 0  | 93 25 58  | 5    | 7.4    | 30    | 300    | N      | 1.80 | 1.8      | .03      | .6   |
| 146248             | 40 19 1  | 93 36 0   | 5    | 11.0   | 30    | 700    | 1.0    | 1.84 | 1.8      | .02      | .6   |
| 146471             | 40 18 0  | 93 43 1   | 4    | 7.3    | 20    | 300    | <1.0   | 1.16 | 1.2      | <.01     | .4   |
| Miller County      |          |           |      |        |       |        |        |      |          |          |      |
| 145955             | 38 16 58 | 92 27 57  | 3    | 4.9    | 30    | 700    | <1.0   | .86  | .8       | .02      | .4   |
| 146551             | 38 13 58 | 92 27 57  | 3    | 6.2    | 30    | 500    | N      | 2.81 | 2.8      | .03      | .2   |
| 146252             | 38 22 1  | 92 36 0   | 4    | 10.0   | 70    | 700    | N      | 1.20 | 1.1      | .07      | .3   |
| 145718             | 38 24 0  | 92 25 58  | 3    | 7.1    | 30    | 700    | <1.0   | 1.11 | 1.1      | <.01     | .3   |
| 145764             | 38 22 58 | 92 31 58  | 4    | 12.0   | 30    | 700    | <1.0   | 1.21 | 1.2      | .01      | .6   |
| 7/ 145767          | 38 7 58  | 92 25 1   | 4    | 8.9    | 30    | 700    | <1.0   | 3.09 | 2.7      | .39      | 1.6  |
| 146450             | 38 1 58  | 92 27 0   | 4    | 6.6    | 30    | 700    | <1.0   | 1.17 | 1.2      | .01      | .1   |
| 145450             | 38 13 1  | 92 19 58  | 4    | 5.6    | 30    | 700    | <1.0   | 1.24 | 1.1      | .11      | .5   |
| 146133             | 38 16 1  | 92 13 58  | 3    | 7.8    | 30    | 700    | <1.0   | .96  | 1.0      | <.01     | .2   |
| 145951             | 38 3 0   | 92 15 0   | 4    | 10.0   | 50    | 700    | 1.0    | 1.20 | 1.2      | .02      | .4   |
| Mississippi County |          |           |      |        |       |        |        |      |          |          |      |
| 145509             | 36 57 0  | 89 19 1   | 5    | 5.5    | 30    | 700    | 1.0    | 1.22 | 1.1      | .12      | .5   |
| 145514             | 36 52 58 | 89 26 31  | 4    | 3.0    | 20    | 500    | <1.0   | .62  | .6       | .04      | .4   |
| 146421             | 36 45 0  | 89 22 1   | 5    | 5.8    | 30    | 700    | 1.0    | .94  | .9       | .03      | .8   |
| 146005             | 36 40 58 | 89 16 58  | 7    | 13.0   | 30    | 700    | 1.5    | 2.18 | 2.2      | .01      | .9   |
| 145813             | 36 39 0  | 89 13 1   | 7    | 12.0   | 30    | 700    | 1.5    | 1.57 | 1.6      | <.01     | .7   |
| 145455             | 36 45 0  | 89 13 1   | 5    | 7.1    | 30    | 700    | N      | .56  | .4       | .18      | .9   |
| 146278             | 36 52 1  | 89 12 28  | 7    | 10.0   | 30    | 700    | 1.5    | 1.70 | 1.7      | .02      | .9   |
| 146552             | 36 57 0  | 89 10 58  | 6    | 11.0   | 30    | 700    | 1.5    | 1.41 | 1.4      | .02      | .8   |
| 145523             | 36 55 1  | 89 15 57  | 6    | 5.8    | 30    | 1,000  | <1.0   | .79  | .8       | .03      | .8   |
| 145619             | 36 47 31 | 89 25 58  | 3    | 2.5    | <20   | 300    | N      | .99  | 1.0      | <.01     | .5   |
| Moniteau County    |          |           |      |        |       |        |        |      |          |          |      |
| 146124             | 38 42 0  | 92 34 58  | 5    | 11.0   | 30    | 700    | 1.5    | 1.05 | 1.0      | .02      | .4   |
| 146277             | 38 39 28 | 92 36 14  | 5    | 13.0   | 30    | 700    | 1.5    | 1.96 | 1.9      | .03      | .3   |
| 145854             | 38 38 31 | 92 48 14  | 5    | 17.0   | 30    | 700    | <1.0   | 1.18 | 1.2      | .04      | .4   |
| 145845             | 38 34 44 | 92 41 45  | 5    | 13.0   | 50    | 700    | 1.0    | 1.12 | 1.1      | <.01     | .3   |
| 146411             | 38 31 44 | 92 40 1   | 3    | 6.9    | <20   | 300    | N      | 2.50 | 2.4      | .06      | .2   |
| 146267             | 38 28 58 | 92 33 43  | 4    | 6.5    | 30    | 300    | N      | 2.41 | 2.4      | .01      | .2   |
| 145884             | 38 25 58 | 92 31 58  | 2    | 4.2    | 50    | 500    | N      | .78  | .8       | <.01     | .1   |
| 146206             | 38 35 31 | 92 30 43  | 3    | 6.2    | 30    | 700    | <1.0   | 1.73 | 1.7      | .02      | .2   |
| 145903             | 38 46 30 | 92 31 15  | 5    | 9.1    | 30    | 700    | <1.0   | .71  | .7       | <.01     | .4   |
| 145532             | 38 52 1  | 92 30 43  | 7    | 11.0   | 30    | 700    | 1.0    | .95  | .9       | .08      | .4   |

Table 3.--Locations and concentrations of frequently detected elements for agricultural soils of Missouri--continued

| Sample             | Ce ppm | Co ppm | Cr ppm | Cu ppm | F%   | Fe % | Ga ppm | Hg ppm | I ppm | K % | La ppm |
|--------------------|--------|--------|--------|--------|------|------|--------|--------|-------|-----|--------|
| Mercer County      |        |        |        |        |      |      |        |        |       |     |        |
| 146180             | 150    | 7      | 70     | 15     | .026 | 2.3  | 15     | .04    | 3.78  | 1.1 | 50     |
| 146091             | 150    | 15     | 70     | 20     | .031 | 2.7  | 15     | .04    | --    | 1.7 | 50     |
| 146589             | <150   | 5      | 50     | 10     | .027 | 1.9  | 15     | .03    | --    | 1.2 | 30     |
| 145763             | <150   | 7      | 30     | 7      | .016 | 2.0  | 7      | .04    | --    | 1.3 | 30     |
| 146541             | <150   | 10     | 30     | 7      | .027 | 1.7  | 10     | .02    | --    | 1.2 | 30     |
| 145516             | 150    | 7      | 50     | 15     | .180 | 1.7  | 15     | .13    | --    | 1.4 | 30     |
| 145545             | <150   | 7      | 50     | 15     | .170 | 2.4  | 15     | .04    | --    | 1.1 | 30     |
| 145697             | <150   | 7      | 30     | 10     | .043 | 2.0  | 15     | .05    | --    | 1.2 | 30     |
| 146248             | 150    | 15     | 70     | 20     | .037 | 2.3  | 15     | .05    | --    | 1.7 | 50     |
| 146471             | <150   | 7      | 30     | 10     | .010 | 1.9  | 10     | .02    | --    | 1.1 | 30     |
| Miller County      |        |        |        |        |      |      |        |        |       |     |        |
| 145955             | 150    | 10     | 70     | 15     | .017 | 1.5  | 7      | .03    | --    | 1.5 | 50     |
| 146551             | <150   | 7      | 50     | 10     | .009 | 1.3  | 10     | .25    | --    | 1.2 | 30     |
| 146252             | 150    | 7      | 70     | 15     | .022 | 1.9  | 10     | .04    | --    | 1.5 | 50     |
| 145718             | 150    | 10     | 70     | 10     | .019 | 1.6  | 7      | .02    | --    | 1.5 | 50     |
| 145764             | <150   | 15     | 70     | 10     | .027 | 2.7  | 10     | .02    | --    | 1.5 | 30     |
| 145767             | <150   | 15     | 70     | 30     | .024 | 2.7  | 15     | .10    | --    | 1.7 | 50     |
| 146450             | <150   | 15     | 70     | 10     | .034 | 1.7  | 7      | .06    | --    | 1.7 | 30     |
| 145450             | <150   | 10     | 50     | 20     | .072 | 1.4  | 7      | .04    | --    | 1.5 | 50     |
| 146133             | <150   | 10     | 70     | 10     | .046 | 1.5  | 15     | .02    | 3.50  | 1.5 | 50     |
| 145951             | 150    | 15     | 70     | 15     | .020 | 2.3  | 15     | .02    | --    | 1.6 | 70     |
| Mississippi County |        |        |        |        |      |      |        |        |       |     |        |
| 145509             | <150   | 10     | 50     | 10     | .052 | 1.5  | 15     | .05    | 4.61  | 2.0 | 30     |
| 145514             | N      | 5      | 15     | 7      | .150 | .8   | 7      | .02    | --    | 1.6 | 30     |
| 146421             | <150   | 15     | 30     | 10     | .020 | 1.7  | 15     | .03    | --    | 1.9 | 30     |
| 146005             | <150   | 10     | 70     | 70     | .053 | 4.0  | 20     | .06    | --    | 2.2 | 50     |
| 145813             | 150    | 15     | 70     | 50     | .052 | 4.0  | 20     | .07    | --    | 2.2 | 50     |
| 145455             | <150   | 7      | 70     | 10     | .027 | 1.7  | 15     | .04    | --    | 1.9 | 30     |
| 146278             | 150    | 15     | 70     | 70     | .046 | 3.6  | 20     | .07    | --    | 2.1 | 50     |
| 146552             | <150   | 7      | 70     | 20     | .057 | 3.0  | 20     | .06    | --    | 2.2 | 30     |
| 145523             | 150    | 7      | 70     | 10     | .270 | 1.9  | 15     | .04    | --    | 2.1 | 50     |
| 145619             | N      | 3      | 10     | 5      | .042 | .8   | 7      | .02    | --    | 1.5 | N      |
| Moniteau County    |        |        |        |        |      |      |        |        |       |     |        |
| 146124             | 150    | 15     | 70     | 15     | .038 | 3.0  | 15     | .04    | --    | 1.6 | 30     |
| 146277             | 150    | 15     | 70     | 15     | .022 | 2.7  | 15     | .04    | 6.13  | 1.3 | 50     |
| 145854             | <150   | 15     | 70     | 20     | .035 | 3.3  | 15     | .04    | --    | 1.3 | 50     |
| 145845             | <150   | 15     | 70     | 15     | .030 | 2.7  | 15     | .04    | --    | 1.6 | 50     |
| 146411             | <150   | 7      | 30     | 7      | .035 | 1.6  | 7      | .07    | --    | .7  | 30     |
| 146267             | 150    | 10     | 50     | 15     | .022 | 1.8  | 10     | .03    | --    | .9  | 30     |
| 145884             | <150   | 7      | 30     | 7      | .010 | 1.0  | 5      | .02    | --    | 1.2 | 30     |
| 146206             | 150    | 15     | 70     | 7      | .016 | 1.5  | 7      | .04    | --    | 1.2 | 70     |
| 145903             | <150   | 15     | 70     | 10     | .027 | 2.3  | 15     | .02    | --    | 2.0 | 50     |
| 145532             | <150   | 10     | 70     | 15     | .140 | 2.9  | 15     | .05    | --    | 1.9 | 50     |

Table 3.--Locations and concentrations of frequently detected elements for agricultural soils of Missouri--continued

| Sample             | Li ppm | Mg % | Mn ppm | Na % | Nb ppm | Nd ppm | Ni ppm | P %  | Pb ppm | Sc ppm | Se ppm |
|--------------------|--------|------|--------|------|--------|--------|--------|------|--------|--------|--------|
| Mercer County      |        |      |        |      |        |        |        |      |        |        |        |
| 146180             | 30     | .33  | 200    | .62  | <10    | 70     | 20     | .04  | 15     | 10     | .4     |
| 146091             | 26     | .44  | 500    | .69  | <10    | 70     | 20     | .09  | 30     | 10     | .4     |
| 146589             | 24     | .23  | 300    | .51  | <10    | <70    | 15     | .09  | 15     | 7      | .4     |
| 145763             | 22     | .27  | 500    | .70  | <10    | <70    | 15     | .07  | 15     | 7      | .1     |
| 146541             | 24     | .22  | 700    | .57  | <10    | <70    | 15     | .03  | 15     | 7      | .7     |
| 145516             | 20     | .40  | 700    | .54  | <10    | 70     | 15     | .11  | 20     | 7      | .5     |
| 145545             | 28     | .31  | 500    | .45  | <10    | <70    | 15     | .07  | 30     | 7      | .4     |
| 145697             | 24     | .25  | 300    | .53  | <10    | <70    | 15     | .06  | 15     | 7      | .6     |
| 146248             | 26     | .37  | 1,000  | .65  | 10     | 70     | 30     | .09  | 20     | 10     | .6     |
| 146471             | 23     | .22  | 300    | .52  | <10    | <70    | 15     | .04  | 15     | 7      | .4     |
| Miller County      |        |      |        |      |        |        |        |      |        |        |        |
| 145955             | 19     | .19  | 1,000  | .51  | <10    | 70     | 15     | .09  | 20     | 7      | <.1    |
| 146551             | 19     | .14  | 700    | .39  | <10    | <70    | 7      | .13  | 15     | 5      | .5     |
| 146252             | 20     | .22  | 1,000  | .61  | 10     | 70     | 7      | .09  | 15     | 7      | .4     |
| 145718             | 23     | .24  | 1,000  | .45  | <10    | 70     | 15     | .08  | 20     | 7      | .5     |
| 145764             | 24     | .33  | 1,000  | .57  | <10    | <70    | 15     | .07  | 30     | 7      | 1.1    |
| 145767             | 27     | .59  | 1,000  | .41  | <10    | 70     | 15     | .15  | 20     | 7      | .4     |
| 146450             | 26     | .24  | 1,000  | .37  | <10    | <70    | 15     | .03  | 20     | 7      | .2     |
| 145450             | 21     | .20  | 1,500  | .52  | <10    | 70     | 15     | .11  | 20     | 7      | .3     |
| 146133             | 19     | .19  | 1,000  | .54  | 10     | 70     | 15     | .04  | 20     | 7      | .1     |
| 145951             | 23     | .25  | 1,000  | .45  | 10     | 70     | 15     | .04  | 30     | 7      | <.1    |
| Mississippi County |        |      |        |      |        |        |        |      |        |        |        |
| 145509             | 16     | .28  | 1,000  | .84  | <10    | <70    | 30     | .10  | 15     | 7      | .4     |
| 145514             | 8      | .13  | 300    | .82  | <10    | N      | 15     | .08  | 15     | <5     | .2     |
| 146421             | 20     | .40  | 300    | 1.02 | <10    | <70    | 15     | .09  | 15     | 7      | .3     |
| 146005             | 37     | .80  | 700    | .47  | 10     | 70     | 30     | .13  | 30     | 15     | .2     |
| 145813             | 45     | .87  | 1,500  | .51  | 10     | 70     | 70     | .10  | 30     | 15     | .2     |
| 145455             | 19     | .49  | 300    | 1.07 | <10    | <70    | 15     | .13  | 15     | 7      | .2     |
| 146278             | 45     | .79  | 700    | .52  | <10    | 70     | 30     | .13  | 20     | 15     | .5     |
| 146552             | 35     | .77  | 500    | .66  | <10    | <70    | 30     | .09  | 30     | 7      | 1.0    |
| 145523             | 22     | .49  | 300    | 1.13 | <10    | <70    | 20     | .09  | 15     | 7      | .4     |
| 145619             | 9      | .16  | 150    | .96  | <10    | --     | 10     | .12  | 15     | <5     | .1     |
| Moniteau County    |        |      |        |      |        |        |        |      |        |        |        |
| 146124             | 30     | .39  | 1,500  | .64  | <10    | 70     | 20     | .04  | 20     | 10     | <.1    |
| 146277             | 28     | .31  | 1,500  | .61  | <10    | 70     | 15     | .04  | 30     | 10     | .4     |
| 145854             | 24     | .42  | 1,000  | .70  | <10    | 70     | 20     | .05  | 30     | 7      | .5     |
| 145845             | 28     | .39  | 1,500  | .66  | 10     | <70    | 20     | .03  | 20     | 10     | .5     |
| 146411             | 26     | .22  | 700    | .23  | <10    | <70    | 7      | .04  | 15     | 7      | .4     |
| 146267             | 26     | .19  | 700    | .28  | <10    | <70    | 10     | .04  | 20     | 7      | .1     |
| 145884             | 18     | .12  | 500    | .31  | <10    | <70    | 7      | <.02 | 20     | <5     | <.1    |
| 146206             | 21     | .17  | 500    | .50  | 10     | 70     | 15     | .04  | 15     | 7      | <.1    |
| 145903             | 24     | .36  | 1,500  | .69  | 10     | 70     | 30     | .09  | 20     | 10     | <.1    |
| 145532             | 27     | .54  | 500    | .68  | <10    | 70     | 20     | .04  | 15     | 10     | .4     |

Table 3.--Locations and concentrations of frequently detected elements for agricultural soils of Missouri--continued

| Sample             | Si % | Sr ppm | Th ppm | Ti % | U ppm | V ppm | Y ppm | Yb ppm | Zn ppm | Zr ppm |
|--------------------|------|--------|--------|------|-------|-------|-------|--------|--------|--------|
| Mercer County      |      |        |        |      |       |       |       |        |        |        |
| 146180             | 34   | 150    | --     | .30  | --    | 100   | 30    | 3.0    | 41     | 200    |
| 146091             | 30   | 100    | --     | .50  | --    | 150   | 30    | 3.0    | 77     | 300    |
| 146589             | 36   | 70     | --     | .20  | --    | 50    | 15    | 2.0    | 37     | 200    |
| 145763             | 36   | 100    | --     | .30  | --    | 50    | 20    | 2.0    | 47     | 200    |
| 146541             | 38   | 100    | --     | .30  | --    | 70    | 30    | 3.0    | 37     | 300    |
| 145516             | 34   | 100    | 8.17   | .30  | 3.12  | 70    | 30    | 3.0    | 51     | 200    |
| 145545             | 32   | 100    | 10.07  | .20  | 2.98  | 70    | 30    | 3.0    | 51     | 300    |
| 145697             | 34   | 100    | --     | .30  | --    | 70    | 20    | 2.0    | 47     | 200    |
| 146248             | 34   | 150    | --     | .30  | --    | 150   | 30    | 3.0    | 74     | 300    |
| 146471             | 38   | 100    | --     | .30  | --    | 70    | 20    | 2.0    | 35     | 300    |
| Miller County      |      |        |        |      |       |       |       |        |        |        |
| 145955             | 34   | 150    | 10.37  | .30  | 3.92  | 50    | 30    | 3.0    | 49     | 500    |
| 146551             | 37   | 100    | --     | .30  | --    | 50    | 30    | 3.0    | 81     | 300    |
| 146252             | 37   | 150    | --     | .30  | --    | 70    | 30    | 3.0    | 32     | 300    |
| 145718             | 37   | 30     | --     | .30  | --    | 70    | 30    | 3.0    | 56     | 500    |
| 145764             | 35   | 100    | --     | .30  | --    | 70    | 30    | 3.0    | 43     | 300    |
| 145767             | 32   | 150    | --     | .30  | --    | 70    | 30    | 3.0    | 72     | 200    |
| 146450             | 37   | 100    | --     | .30  | --    | 70    | 30    | 3.0    | 31     | 300    |
| 145450             | 37   | 100    | --     | .50  | --    | 50    | 50    | 5.0    | 52     | 500    |
| 146133             | 38   | 150    | 6.70   | .30  | 4.23  | 50    | 50    | 5.0    | 32     | 300    |
| 145951             | 33   | 100    | --     | .50  | --    | 100   | 50    | 5.0    | 36     | 500    |
| Mississippi County |      |        |        |      |       |       |       |        |        |        |
| 145509             | 34   | 150    | --     | .30  | --    | 70    | 30    | 3.0    | 66     | 200    |
| 145514             | 38   | 150    | --     | .15  | --    | 30    | 15    | 1.0    | 42     | 150    |
| 146421             | 35   | 200    | --     | .20  | --    | 70    | 30    | 2.0    | 58     | 200    |
| 146005             | 26   | 200    | --     | .30  | --    | 150   | 30    | 3.0    | 140    | 150    |
| 145813             | 31   | 150    | 12.31  | .50  | 3.80  | 150   | 50    | 5.0    | 126    | 200    |
| 145455             | 35   | 200    | --     | .30  | --    | 70    | 20    | 3.0    | 60     | 200    |
| 146278             | 28   | 200    | --     | .30  | --    | 150   | 30    | 3.0    | 147    | 100    |
| 146552             | 30   | 150    | --     | .30  | --    | 70    | 30    | 3.0    | 114    | 150    |
| 145523             | 34   | 200    | --     | .30  | --    | 100   | 30    | 3.0    | 76     | 300    |
| 145619             | 39   | 100    | 3.16   | .15  | 1.08  | 30    | <10   | <1.0   | 29     | 70     |
| Moniteau County    |      |        |        |      |       |       |       |        |        |        |
| 146124             | 32   | 150    | --     | .30  | --    | 100   | 30    | 3.0    | 62     | 300    |
| 146277             | 34   | 150    | --     | .30  | --    | 70    | 30    | 3.0    | 45     | 300    |
| 145854             | 34   | 150    | 8.97   | .30  | 4.70  | 100   | 30    | 3.0    | 58     | 300    |
| 145845             | 35   | 150    | --     | .30  | --    | 100   | 30    | 3.0    | 65     | 300    |
| 146411             | 37   | 70     | 7.44   | .20  | 3.18  | 50    | 20    | 2.0    | 31     | 150    |
| 146267             | 36   | 70     | --     | .30  | --    | 70    | 30    | 3.0    | 28     | 300    |
| 145884             | 41   | 70     | --     | .50  | --    | 30    | 20    | 3.0    | 28     | 700    |
| 146206             | 38   | 150    | --     | .50  | --    | 70    | 30    | 3.0    | 29     | 500    |
| 145903             | 37   | 150    | --     | .30  | --    | 100   | 30    | 3.0    | 53     | 300    |
| 145532             | 32   | 150    | --     | .50  | --    | 150   | 30    | 3.0    | 75     | 300    |

Table 3.--Locations and concentrations of frequently detected elements for agricultural soils of Missouri--continued

| Sample            | Latitude | Longitude | Al % | As ppm | B ppm | Ba ppm | Be ppm | C %  | C org. % | C crb. % | Ca % |
|-------------------|----------|-----------|------|--------|-------|--------|--------|------|----------|----------|------|
| Monroe County     |          |           |      |        |       |        |        |      |          |          |      |
| 145458            | 39 32 31 | 92 12 0   | 5    | 10.0   | 30    | 700    | 1.5    | 1.38 | 1.4      | .03      | .4   |
| 145536            | 39 34 1  | 92 1 58   | 5    | 11.0   | 30    | 500    | N      | 1.21 | 1.1      | .07      | .4   |
| 146526            | 39 30 0  | 91 50 31  | 4    | 7.1    | <20   | 300    | N      | .94  | .9       | .01      | .4   |
| 145879            | 39 34 58 | 91 51 0   | 4    | 12.0   | 30    | 700    | 1.5    | 1.20 | 1.2      | <.01     | .4   |
| 145676            | 39 39 0  | 91 46 1   | 4    | 11.0   | 30    | 700    | 1.0    | 1.83 | 1.8      | .08      | .3   |
| 146255            | 39 21 0  | 91 45 0   | 4    | 17.0   | 30    | 700    | 1.5    | 2.47 | 2.4      | .03      | .5   |
| 145600            | 39 22 30 | 92 1 58   | 5    | 11.0   | 50    | 700    | 1.0    | 1.36 | 1.3      | .06      | .4   |
| 145645            | 39 25 58 | 92 4 58   | 5    | 17.0   | 30    | 700    | 1.0    | 1.69 | 1.6      | .07      | .3   |
| 146072            | 39 23 31 | 92 12 57  | 6    | 15.0   | 30    | 500    | 1.0    | 1.05 | 1.0      | .02      | .4   |
| 146075            | 39 34 30 | 92 16 58  | 4    | 6.8    | 30    | 700    | <1.0   | 1.35 | 1.3      | .01      | .3   |
| Montgomery County |          |           |      |        |       |        |        |      |          |          |      |
| 146350            | 39 7 58  | 91 33 43  | 4    | 16.0   | 30    | 700    | N      | 1.37 | 1.3      | .08      | .7   |
| 146574            | 39 5 31  | 91 20 45  | 5    | 11.0   | 50    | 300    | 1.5    | .72  | .7       | .05      | .4   |
| 145992            | 38 59 13 | 91 31 30  | 3    | 13.0   | 30    | 700    | 1.0    | 1.64 | 1.6      | .02      | .5   |
| 146520            | 39 0 14  | 91 19 44  | 4    | 18.0   | 30    | 700    | <1.0   | .98  | .9       | .04      | .5   |
| 145489            | 38 56 45 | 91 28 19  | 5    | 17.0   | 30    | 700    | 1.0    | 3.91 | 3.8      | .10      | .4   |
| 145629            | 38 57 28 | 91 22 44  | 4    | 16.0   | 30    | 700    | <1.0   | 2.35 | 2.3      | .07      | .5   |
| 146492            | 38 52 58 | 91 25 44  | 5    | 16.0   | 20    | 700    | <1.0   | 1.34 | 1.3      | <.01     | .4   |
| 145522            | 38 55 19 | 91 27 0   | 5    | 12.0   | 50    | 700    | 1.0    | 1.25 | 1.1      | .12      | .4   |
| 145888            | 38 46 44 | 91 27 28  | 5    | 8.2    | 50    | 1,000  | 1.0    | .83  | .8       | .02      | .5   |
| 146379            | 38 42 28 | 91 33 14  | 5    | 9.7    | 30    | 500    | 1.0    | 1.27 | 1.2      | .02      | .3   |
| Morgan County     |          |           |      |        |       |        |        |      |          |          |      |
| 145860            | 38 40 44 | 92 50 45  | 5    | 16.0   | 30    | 700    | 1.5    | 1.74 | 1.7      | <.01     | .4   |
| 146499            | 38 37 44 | 92 54 0   | 4    | 6.0    | 30    | 300    | <1.0   | .80  | .8       | .01      | .3   |
| 146058            | 38 37 58 | 93 1 1    | 4    | 6.6    | 30    | 700    | 1.0    | 1.22 | 1.2      | .02      | .4   |
| 146468            | 38 25 30 | 93 0 0    | 4    | 9.5    | 30    | 700    | 1.0    | 1.66 | 1.6      | .03      | .5   |
| 145452            | 38 22 58 | 92 55 58  | 4    | 13.0   | 30    | 700    | <1.0   | 1.01 | 1.0      | .04      | .3   |
| 146086            | 38 20 13 | 92 58 58  | 3    | 6.5    | 30    | 700    | <1.0   | 1.58 | 1.4      | .13      | .6   |
| 146246            | 38 24 14 | 92 50 31  | 6    | 11.0   | 30    | 700    | N      | 1.04 | 1.0      | <.01     | .3   |
| 146097            | 38 25 58 | 92 38 13  | 5    | 17.0   | 30    | 700    | <1.0   | 1.24 | 1.2      | .01      | .4   |
| 145836            | 38 30 46 | 92 44 31  | 4    | 14.0   | 50    | 700    | 1.0    | 1.40 | 1.4      | .05      | .3   |
| 146105            | 38 33 28 | 92 49 1   | 6    | 16.0   | 30    | 700    | 1.5    | 1.34 | 1.3      | .02      | .4   |
| New Madrid County |          |           |      |        |       |        |        |      |          |          |      |
| 146076            | 36 42 0  | 89 31 58  | 4    | 4.0    | 30    | 700    | <1.0   | .75  | .7       | .02      | .4   |
| 146234            | 36 28 58 | 89 55 58  | 4    | 5.0    | 30    | 700    | N      | .82  | .8       | .04      | .4   |
| 145641            | 36 37 58 | 89 30 0   | 3    | 9.7    | 30    | 700    | N      | .99  | .9       | .05      | .4   |
| 145867            | 36 31 58 | 89 36 57  | 7    | 7.4    | 50    | 700    | 1.5    | 2.12 | 2.1      | .05      | .8   |
| 145967            | 36 37 1  | 89 39 57  | 4    | 6.5    | 30    | 700    | 1.0    | 1.16 | 1.2      | .01      | .6   |
| 145798            | 36 28 1  | 89 34 58  | 6    | 9.2    | 30    | 700    | 1.0    | 1.13 | 1.1      | .04      | .4   |
| 145856            | 36 31 58 | 89 48 0   | 4    | 4.9    | 30    | 700    | N      | .66  | .7       | <.01     | .3   |
| 145502            | 36 30 0  | 89 43 1   | 6    | 5.7    | 30    | 700    | 1.0    | 1.28 | 1.2      | .13      | .6   |
| 146598            | 36 46 58 | 89 34 58  | 4    | 4.0    | <20   | 700    | <1.0   | .36  | .3       | .05      | .5   |
| 145698            | 36 52 1  | 89 33 0   | 4    | 5.6    | 30    | 700    | <1.0   | 1.09 | 1.0      | .04      | .4   |



Table 3.--Locations and concentrations of frequently detected elements for agricultural soils of Missouri--continued

| Sample            | Ce ppm | Co ppm | Cr ppm | Cu ppm | F%   | Fe % | Ga ppm | Hg ppm | I ppm | K % | La ppm |
|-------------------|--------|--------|--------|--------|------|------|--------|--------|-------|-----|--------|
| Monroe County     |        |        |        |        |      |      |        |        |       |     |        |
| 145458            | 150    | 10     | 70     | 15     | .022 | 2.2  | 10     | .08    | 3.88  | 1.3 | 50     |
| 145536            | 150    | 10     | 70     | 15     | .170 | 2.9  | 15     | .05    | --    | 1.1 | 30     |
| 146526            | <150   | 3      | 30     | 10     | .018 | 1.7  | 7      | .01    | --    | 1.2 | 30     |
| 145879            | 150    | 7      | 70     | 15     | .019 | 2.3  | 15     | .06    | --    | 1.4 | 50     |
| 145676            | <150   | 10     | 70     | 10     | .026 | 2.1  | 10     | .07    | --    | 1.5 | 30     |
| 146255            | 150    | 15     | 70     | 20     | .027 | 3.1  | 15     | .11    | --    | 1.5 | 70     |
| 145600            | 150    | 7      | 50     | 15     | .210 | 2.3  | 10     | .02    | --    | 1.4 | 50     |
| 145645            | <150   | 15     | 70     | 15     | .029 | 2.8  | 15     | .08    | --    | 1.3 | 50     |
| 146072            | 150    | 10     | 70     | 30     | .038 | 3.7  | 15     | .09    | --    | 1.3 | 30     |
| 146075            | <150   | 7      | 50     | 15     | .020 | 1.8  | 15     | .07    | --    | 1.4 | 30     |
| Montgomery County |        |        |        |        |      |      |        |        |       |     |        |
| 146350            | 150    | 15     | 70     | 20     | .025 | 2.8  | 15     | .04    | --    | 1.3 | 30     |
| 146574            | <150   | 7      | 70     | 20     | .038 | 2.6  | 15     | .05    | --    | 1.2 | 30     |
| 145992            | 150    | 10     | 70     | 15     | .020 | 2.7  | 15     | .07    | --    | 1.4 | 50     |
| 146520            | <150   | 7      | 70     | 10     | .024 | 2.8  | 7      | .03    | --    | 1.0 | 30     |
| 145489            | 150    | 15     | 70     | 15     | .024 | 2.8  | 15     | .06    | 4.08  | 1.4 | 50     |
| 145629            | <150   | 10     | 70     | 15     | .025 | 3.1  | 10     | .14    | --    | 1.3 | 30     |
| 146492            | <150   | 10     | 70     | 15     | .034 | 2.8  | 10     | .02    | --    | 1.2 | 30     |
| 145522            | 150    | 10     | 70     | 10     | .240 | 2.4  | 15     | .04    | --    | 1.2 | 50     |
| 145888            | <150   | 10     | 50     | 15     | .028 | 2.4  | 15     | .03    | --    | 1.5 | 30     |
| 146379            | 150    | 15     | 70     | 15     | .010 | 2.2  | 15     | .06    | --    | 1.9 | 30     |
| Morgan County     |        |        |        |        |      |      |        |        |       |     |        |
| 145860            | 150    | 15     | 70     | 15     | .025 | 3.1  | 15     | .04    | --    | 1.5 | 30     |
| 146499            | <150   | 7      | 30     | 10     | .023 | 1.5  | 10     | .01    | --    | 1.2 | 30     |
| 146058            | <150   | 7      | 70     | 15     | .023 | 1.6  | 10     | .04    | --    | 1.5 | 50     |
| 146468            | 150    | 10     | 70     | 15     | .020 | 2.0  | 15     | .04    | --    | 1.3 | 50     |
| 145452            | N      | 7      | 70     | 10     | .084 | 2.0  | 10     | .06    | 2.07  | 1.3 | 30     |
| 146086            | <150   | 10     | 30     | 15     | .018 | 1.6  | 10     | .04    | --    | 1.1 | 50     |
| 146246            | <150   | 15     | 70     | 15     | .040 | 2.7  | 15     | .04    | --    | 1.6 | 30     |
| 146097            | 150    | 15     | 70     | 15     | .024 | 3.0  | 15     | .03    | --    | 1.3 | 50     |
| 145836            | <150   | 10     | 70     | 10     | .021 | 2.8  | 15     | .04    | --    | 1.3 | 50     |
| 146105            | 150    | 15     | 70     | 20     | .049 | 3.6  | 20     | .05    | --    | 1.5 | 50     |
| New Madrid County |        |        |        |        |      |      |        |        |       |     |        |
| 146076            | <150   | 7      | 30     | 7      | .010 | 1.0  | 10     | .05    | --    | 1.7 | 30     |
| 146234            | <150   | 7      | 30     | 10     | .014 | 1.2  | 10     | .03    | --    | 1.4 | 30     |
| 145641            | <150   | 5      | 30     | 7      | .008 | 1.2  | 7      | .10    | --    | 1.7 | 30     |
| 145867            | <150   | 10     | 70     | 20     | .061 | 3.4  | 30     | .05    | --    | 2.2 | 50     |
| 145967            | <150   | 7      | 30     | 20     | .013 | 1.8  | 15     | .04    | --    | 1.7 | 30     |
| 145798            | <150   | 15     | 50     | 150    | .036 | 3.0  | 15     | .04    | --    | 2.1 | 50     |
| 145856            | <150   | 5      | 30     | 10     | .013 | 1.2  | 15     | .02    | --    | 1.6 | 30     |
| 145502            | <150   | 10     | 70     | 15     | .110 | 2.4  | 20     | .04    | --    | 1.7 | 30     |
| 146598            | <150   | 5      | 30     | 7      | .011 | 1.2  | 10     | .02    | --    | 1.6 | 30     |
| 145698            | <150   | 7      | 30     | 7      | .025 | 1.3  | 7      | .05    | 3.57  | 1.8 | 30     |

Table 3.--Locations and concentrations of frequently detected elements for agricultural soils of Missouri--continued

| Sample            | Li ppm | Mg % | Mn ppm | Na % | Nb ppm | Nd ppm | Ni ppm | P % | Pb ppm | Sc ppm | Se ppm |
|-------------------|--------|------|--------|------|--------|--------|--------|-----|--------|--------|--------|
| Monroe County     |        |      |        |      |        |        |        |     |        |        |        |
| 145458            | 23     | .25  | 1,500  | .60  | <10    | 70     | 15     | .08 | 15     | 7      | 1.0    |
| 145536            | 28     | .42  | 300    | .45  | 10     | 70     | 15     | .04 | 20     | 10     | .7     |
| 146526            | 23     | .24  | 200    | .53  | <10    | <70    | 7      | .03 | 15     | 7      | .4     |
| 145879            | 18     | .22  | 1,000  | .78  | 10     | 70     | 10     | .04 | 20     | 7      | .4     |
| 145676            | 20     | .27  | 1,000  | .76  | <10    | 70     | 15     | .03 | 20     | 7      | .3     |
| 146255            | 23     | .32  | 1,500  | .74  | <10    | 70     | 15     | .13 | 70     | 10     | .8     |
| 145600            | 21     | .24  | 700    | .71  | <10    | 70     | 10     | .10 | 15     | 10     | 1.0    |
| 145645            | 22     | .28  | 1,500  | .65  | <10    | 70     | 15     | .06 | 20     | 7      | .7     |
| 146072            | 32     | .48  | 500    | .53  | <10    | 70     | 20     | .04 | 20     | 10     | .6     |
| 146075            | 26     | .26  | 700    | .60  | 10     | 70     | 15     | .04 | 15     | 7      | .2     |
| Montgomery County |        |      |        |      |        |        |        |     |        |        |        |
| 146350            | 22     | .27  | 1,500  | .68  | 10     | <70    | 15     | .09 | 30     | 7      | .8     |
| 146574            | 29     | .37  | 300    | .43  | <10    | <70    | 20     | .09 | 20     | 10     | .3     |
| 145992            | 21     | .24  | 1,000  | .74  | <10    | 70     | 10     | .09 | 30     | 7      | .5     |
| 146520            | 20     | .27  | 1,000  | .73  | <10    | <70    | 10     | .04 | 15     | 7      | .8     |
| 145489            | 23     | .32  | 1,500  | .63  | <10    | 70     | 15     | .08 | 30     | 10     | .2     |
| 145629            | 22     | .35  | 700    | .65  | <10    | 70     | 10     | .06 | 50     | 7      | 1.0    |
| 146492            | 24     | .31  | 1,000  | .61  | <10    | <70    | 10     | .04 | 30     | 7      | .8     |
| 145522            | 20     | .25  | 1,500  | .54  | 10     | 70     | 15     | .06 | 20     | 7      | .6     |
| 145888            | 20     | .38  | 1,000  | .91  | <10    | <70    | 30     | .06 | 20     | 7      | <.1    |
| 146379            | 26     | .41  | 700    | .66  | <10    | <70    | 10     | .04 | 15     | 7      | .7     |
| Morgan County     |        |      |        |      |        |        |        |     |        |        |        |
| 145860            | 24     | .40  | 1,000  | .76  | 10     | 70     | 20     | .05 | 30     | 10     | .4     |
| 146499            | 19     | .26  | 700    | .43  | <10    | <70    | 15     | .04 | 15     | 7      | .4     |
| 146058            | 20     | .22  | 700    | .76  | 10     | 70     | 15     | .04 | 20     | 7      | <.1    |
| 146468            | 23     | .26  | 700    | .47  | <10    | 70     | 10     | .09 | 20     | 7      | .6     |
| 145452            | 21     | .19  | 1,500  | .65  | 10     | <70    | 15     | .05 | 20     | 7      | .6     |
| 146086            | 20     | .36  | 1,500  | .37  | <10    | 70     | 15     | .09 | 30     | 7      | .2     |
| 146246            | 31     | .46  | 500    | .52  | 10     | 70     | 15     | .04 | 15     | 10     | .4     |
| 146097            | 22     | .33  | 1,000  | .70  | <10    | 70     | 15     | .09 | 30     | 7      | .6     |
| 145836            | 22     | .30  | 1,500  | .70  | 10     | <70    | 15     | .02 | 30     | 7      | .4     |
| 146105            | 33     | .69  | 700    | .46  | 10     | 70     | 30     | .03 | 20     | 15     | .1     |
| New Madrid County |        |      |        |      |        |        |        |     |        |        |        |
| 146076            | 10     | .11  | 700    | .82  | <10    | 70     | 15     | .09 | 15     | <5     | <.1    |
| 146234            | 15     | .22  | 300    | .73  | <10    | <70    | 7      | .03 | 15     | 7      | <.1    |
| 145641            | 13     | .16  | 500    | .86  | <10    | <70    | 10     | .12 | 15     | 5      | .2     |
| 145867            | 38     | .90  | 300    | .56  | <10    | 70     | 30     | .08 | 30     | 15     | .7     |
| 145967            | 19     | .36  | 200    | .79  | <10    | <70    | 20     | .09 | 15     | 7      | <.1    |
| 145798            | 32     | .58  | 1,500  | .69  | <10    | 70     | 30     | .11 | 30     | 10     | 1.3    |
| 145856            | 13     | .17  | 700    | .78  | <10    | N      | 20     | .06 | 15     | <5     | .2     |
| 145502            | 29     | .56  | 300    | .67  | 10     | <70    | 20     | .08 | 20     | 10     | .6     |
| 146598            | 11     | .17  | 500    | .82  | <10    | N      | 10     | .09 | 15     | 5      | .1     |
| 145698            | 14     | .21  | 700    | .88  | <10    | <70    | 15     | .09 | 15     | 7      | .2     |

Table 3.--Locations and concentrations of frequently detected elements for agricultural soils of Missouri--continued

| Sample            | Si % | Sr ppm | Th ppm | Ti % | U ppm | V ppm | Y ppm | Yb ppm | Zn ppm | Zr ppm |
|-------------------|------|--------|--------|------|-------|-------|-------|--------|--------|--------|
| Monroe County     |      |        |        |      |       |       |       |        |        |        |
| 145458            | 35   | 150    | 11.24  | .50  | 3.89  | 100   | 30    | 3.0    | 46     | 300    |
| 145536            | 33   | 100    | --     | .30  | --    | 100   | 30    | 3.0    | 62     | 300    |
| 146526            | 37   | 70     | --     | .20  | --    | 30    | 15    | 2.0    | 36     | 150    |
| 145879            | 36   | 150    | --     | .30  | --    | 70    | 30    | 3.0    | 45     | 300    |
| 145676            | 36   | 150    | 9.61   | .30  | 4.31  | 70    | 30    | 3.0    | 77     | 300    |
| 146255            | 31   | 200    | --     | .30  | --    | 150   | 50    | 5.0    | 420    | 300    |
| 145600            | 35   | 150    | --     | .30  | --    | 70    | 30    | 3.0    | 50     | 300    |
| 145645            | 34   | 150    | --     | .30  | --    | 100   | 30    | 3.0    | 55     | 300    |
| 146072            | 31   | 150    | --     | .30  | --    | 100   | 30    | 3.0    | 64     | 150    |
| 146075            | 35   | 150    | --     | .50  | --    | 70    | 30    | 3.0    | 47     | 300    |
| Montgomery County |      |        |        |      |       |       |       |        |        |        |
| 146350            | 33   | 150    | --     | .30  | --    | 100   | 30    | 5.0    | 175    | 500    |
| 146574            | 35   | 100    | --     | .30  | --    | 70    | 30    | 3.0    | 50     | 200    |
| 145992            | 30   | 150    | --     | .30  | --    | 70    | 30    | 3.0    | 46     | 300    |
| 146520            | 35   | 150    | --     | .30  | --    | 100   | 30    | 3.0    | 48     | 300    |
| 145489            | 33   | 150    | --     | .30  | --    | 70    | 30    | 3.0    | 61     | 300    |
| 145629            | 32   | 150    | --     | .30  | --    | 70    | 30    | 3.0    | 121    | 200    |
| 146492            | 34   | 150    | --     | .30  | --    | 70    | 30    | 3.0    | 47     | 300    |
| 145522            | 35   | 70     | 13.31  | .50  | 4.05  | 70    | 30    | 3.0    | 48     | 300    |
| 145888            | 35   | 200    | 7.71   | .30  | 3.70  | 100   | 15    | 2.0    | 60     | 500    |
| 146379            | 35   | 150    | --     | .30  | --    | 70    | 30    | 3.0    | 60     | 300    |
| Morgan County     |      |        |        |      |       |       |       |        |        |        |
| 145860            | 35   | 150    | --     | .50  | 5.57  | 100   | 30    | 3.0    | 57     | 300    |
| 146499            | 38   | 70     | --     | .30  | --    | 70    | 30    | 3.0    | 47     | 300    |
| 146058            | 37   | 150    | --     | .30  | --    | 70    | 30    | 3.0    | 39     | 500    |
| 146468            | 37   | 100    | --     | .30  | --    | 70    | 30    | 3.0    | 42     | 300    |
| 145452            | 36   | 100    | --     | .30  | --    | 70    | 30    | 3.0    | 40     | 300    |
| 146086            | 36   | 70     | --     | .30  | --    | 50    | 30    | 5.0    | 93     | 300    |
| 146246            | 33   | 150    | --     | .50  | --    | 100   | 30    | 3.0    | 50     | 200    |
| 146097            | 35   | 100    | 9.92   | .30  | 4.77  | 100   | 30    | 3.0    | 53     | 300    |
| 145836            | 37   | 100    | --     | .50  | --    | 70    | 30    | 3.0    | 48     | 500    |
| 146105            | 31   | 150    | --     | .30  | --    | 150   | 50    | 5.0    | 67     | 150    |
| New Madrid County |      |        |        |      |       |       |       |        |        |        |
| 146076            | 38   | 150    | --     | .20  | --    | 30    | 20    | 2.0    | 32     | 300    |
| 146234            | 37   | 150    | --     | .20  | --    | 70    | 20    | 3.0    | 23     | 150    |
| 145641            | 38   | 150    | --     | .30  | --    | 50    | 20    | 2.0    | 59     | 200    |
| 145867            | 30   | 200    | --     | .30  | --    | 150   | 30    | 3.0    | 116    | 150    |
| 145967            | 33   | 150    | --     | .20  | --    | 70    | 15    | 1.5    | 61     | 150    |
| 145798            | 34   | 150    | --     | .30  | --    | 100   | 30    | 3.0    | 85     | 150    |
| 145856            | 38   | 150    | --     | .20  | --    | 30    | 15    | 1.5    | 28     | 200    |
| 145502            | 31   | 150    | --     | .30  | --    | 100   | 50    | 3.0    | 70     | 200    |
| 146598            | 38   | 150    | --     | .20  | 1.94  | 30    | 15    | 3.0    | 25     | 300    |
| 145698            | 37   | 100    | 8.75   | .30  | 2.41  | 50    | 30    | 3.0    | 39     | 300    |

Table 3.--Locations and concentrations of frequently detected elements for agricultural soils of Missouri--continued

| Sample         | Latitude | Longitude | Al % | As ppm | B ppm | Ba ppm | Be ppm | C %  | C org. % | C crb. % | Ca % |
|----------------|----------|-----------|------|--------|-------|--------|--------|------|----------|----------|------|
| Newton County  |          |           |      |        |       |        |        |      |          |          |      |
| 146028         | 37 1 1   | 94 16 58  | 3    | 9.9    | 50    | 500    | <1.0   | .92  | .9       | .02      | .1   |
| 145898         | 36 52 58 | 94 4 1    | 3    | 5.1    | 30    | 700    | N      | 1.20 | 1.2      | <.01     | .1   |
| 146352         | 36 46 1  | 94 7 58   | 2    | 9.0    | 30    | 500    | N      | 3.98 | 4.0      | .03      | .3   |
| 145712         | 36 45 0  | 94 15 0   | 3    | 4.8    | 30    | 500    | 1.0    | 1.19 | 1.2      | .03      | .1   |
| 145574         | 36 55 58 | 94 7 58   | 3    | 7.6    | 30    | 700    | <1.0   | 1.19 | 1.1      | .11      | .2   |
| 145987         | 36 46 1  | 94 28 1   | 3    | 12.0   | 30    | 300    | 1.0    | 1.51 | 1.5      | .03      | .4   |
| 146336         | 36 49 58 | 94 31 1   | 3    | 5.9    | 50    | 700    | 1.5    | 1.74 | 1.7      | .05      | .4   |
| 145892         | 36 55 1  | 94 16 58  | 3    | 7.0    | 50    | 700    | 1.5    | 1.02 | 1.0      | <.01     | .1   |
| 146178         | 36 57 0  | 94 30 0   | 3    | 11.0   | 50    | 300    | 1.0    | .77  | .7       | .03      | .1   |
| 146292         | 37 1 30  | 94 4 58   | 3    | 7.0    | 30    | 500    | <1.0   | 1.19 | 1.1      | .08      | .2   |
| Nodaway County |          |           |      |        |       |        |        |      |          |          |      |
| 146521         | 40 10 15 | 95 3 14   | 5    | 9.2    | 30    | 700    | <1.0   | 2.34 | 2.3      | .05      | .5   |
| 145891         | 40 13 1  | 94 55 58  | 6    | 15.0   | 30    | 1,000  | 1.5    | 1.63 | 1.6      | <.01     | .6   |
| 145526         | 40 29 31 | 95 10 30  | 7    | 13.0   | 30    | 700    | 1.5    | 1.11 | 1.1      | .05      | .5   |
| 145486         | 40 33 28 | 95 1 58   | 6    | 13.0   | 30    | 700    | 1.0    | 1.10 | .9       | .20      | .4   |
| 145883         | 40 28 58 | 95 3 14   | 4    | 7.8    | 30    | 700    | 1.5    | 2.73 | 2.7      | <.01     | .9   |
| 146131         | 40 31 30 | 94 52 58  | 5    | 9.4    | 30    | 1,000  | 1.0    | 2.24 | 2.2      | <.01     | .6   |
| 145826         | 40 30 0  | 94 43 1   | 6    | 14.0   | 30    | 700    | <1.0   | 2.40 | 2.4      | .04      | .5   |
| 145814         | 40 19 58 | 94 51 0   | 5    | 6.9    | 30    | 700    | 1.0    | 3.15 | 3.1      | <.01     | .8   |
| 145811         | 40 12 43 | 94 39 14  | 4    | 11.0   | 30    | 700    | <1.0   | 2.98 | 3.0      | .01      | .6   |
| 145419         | 40 22 1  | 94 38 31  | 6    | 13.0   | 20    | 300    | <1.0   | 1.68 | 1.6      | .11      | .7   |
| Oregon County  |          |           |      |        |       |        |        |      |          |          |      |
| 145966         | 36 36 0  | 91 20 31  | 2    | 6.5    | 30    | 700    | 1.0    | .95  | .9       | .03      | .1   |
| 145612         | 36 40 30 | 91 10 58  | 2    | 11.0   | 30    | 300    | N      | 1.04 | .9       | .16      | <.1  |
| 146250         | 36 31 30 | 91 18 28  | 2    | 6.8    | 30    | 200    | 1.0    | 1.15 | 1.1      | .02      | .1   |
| 146365         | 36 34 1  | 91 13 58  | 3    | 8.7    | 30    | 500    | N      | .66  | .6       | .02      | .1   |
| 146334         | 36 32 31 | 91 34 30  | 2    | 3.9    | 50    | 300    | N      | 1.26 | 1.2      | <.01     | <.1  |
| 146373         | 36 43 44 | 91 23 45  | 2    | 6.1    | 30    | 200    | N      | .98  | 1.0      | .02      | .1   |
| 145663         | 36 32 31 | 91 25 15  | 2    | 4.8    | 30    | 300    | 1.0    | 1.64 | 1.6      | .06      | <.1  |
| 145750         | 36 49 1  | 91 18 0   | 2    | 6.5    | 30    | 150    | N      | 1.54 | 1.5      | .08      | <.1  |
| 145919         | 36 43 58 | 91 31 30  | 2    | 5.5    | 30    | 300    | <1.0   | 1.85 | 1.8      | .02      | .1   |
| 145838         | 36 51 14 | 91 33 0   | 3    | 7.8    | 30    | 300    | N      | .79  | .8       | .02      | <.1  |
| Osage County   |          |           |      |        |       |        |        |      |          |          |      |
| 146465         | 38 26 31 | 92 2 31   | 5    | 11.0   | 30    | 500    | <1.0   | .85  | .8       | .01      | .4   |
| 146088         | 38 39 0  | 91 46 58  | 6    | 10.0   | 30    | 1,000  | 1.0    | 1.39 | 1.4      | .02      | .7   |
| 146547         | 38 31 1  | 91 56 13  | 4    | 5.6    | 50    | 700    | 1.0    | 1.02 | 1.0      | .07      | .5   |
| 146186         | 38 23 31 | 92 2 31   | 5    | 9.1    | 30    | 700    | <1.0   | 1.10 | 1.1      | .02      | .6   |
| 145875         | 38 25 1  | 91 46 58  | 6    | 9.2    | 50    | 700    | 1.5    | .97  | 1.0      | .02      | .2   |
| 146221         | 38 22 58 | 92 6 0    | 4    | 13.0   | 30    | 700    | 1.0    | .91  | .9       | .04      | .3   |
| 146096         | 38 21 0  | 92 7 30   | 3    | 5.0    | 30    | 500    | N      | 1.26 | 1.2      | .03      | .2   |
| 146475         | 38 19 58 | 91 54 0   | 4    | 5.6    | 30    | 700    | <1.0   | 1.06 | 1.1      | .01      | .3   |
| 145788         | 38 34 30 | 91 49 58  | 4    | 9.1    | 30    | 700    | 1.5    | .96  | 1.0      | <.01     | .2   |
| 146481         | 38 40 1  | 91 42 14  | 5    | 11.0   | 30    | 700    | 1.0    | 1.55 | 1.5      | .01      | .3   |

Table 3.--Locations and concentrations of frequently detected elements for agricultural soils of Missouri--continued

| Sample         | Ce ppm | Co ppm | Cr ppm | Cu ppm | F%   | Fe % | Ga ppm | Hg ppm | I ppm | K % | La ppm |
|----------------|--------|--------|--------|--------|------|------|--------|--------|-------|-----|--------|
| Newton County  |        |        |        |        |      |      |        |        |       |     |        |
| 146028         | 150    | 15     | 70     | 15     | .019 | 2.0  | 10     | .04    | --    | 1.1 | 50     |
| 145898         | <150   | 15     | 30     | 50     | .020 | 1.5  | 7      | .04    | 4.96  | 1.5 | 50     |
| 146352         | 150    | 10     | 70     | 20     | .009 | 2.2  | 7      | .78    | --    | .7  | 70     |
| 145712         | <150   | 10     | 30     | 15     | .011 | 1.7  | 7      | .05    | --    | 1.3 | 50     |
| 145574         | 150    | 15     | 70     | 15     | .094 | 1.3  | 15     | .07    | --    | 1.6 | 70     |
| 145987         | <150   | 10     | 70     | 15     | .015 | 3.4  | 10     | .04    | --    | .9  | 50     |
| 146336         | 150    | 10     | 70     | 15     | .010 | 1.5  | 7      | .06    | --    | .9  | 70     |
| 145892         | 150    | 15     | 50     | 10     | .012 | 2.0  | 7      | .05    | --    | 1.2 | 70     |
| 146178         | 150    | 10     | 70     | 10     | .009 | 2.6  | 10     | .04    | --    | .6  | 50     |
| 146292         | 150    | 10     | 70     | 15     | .010 | 1.7  | 7      | .03    | --    | 1.0 | 50     |
| Nodaway County |        |        |        |        |      |      |        |        |       |     |        |
| 146521         | <150   | 7      | 50     | 15     | .034 | 2.4  | 15     | .04    | --    | 2.0 | 30     |
| 145891         | <150   | 15     | 70     | 20     | .039 | 3.3  | 15     | .05    | --    | 2.1 | 30     |
| 145526         | 150    | 15     | 70     | 20     | .110 | 3.2  | 20     | .05    | --    | 2.0 | 70     |
| 145486         | 150    | 15     | 70     | 15     | .036 | 2.8  | 15     | .05    | --    | 2.0 | 70     |
| 145883         | <150   | 7      | 70     | 20     | .037 | 2.9  | 15     | .03    | --    | 2.0 | 50     |
| 146131         | <150   | 7      | 70     | 15     | .030 | 2.3  | 15     | .04    | --    | 2.0 | 30     |
| 145826         | <150   | 15     | 70     | 30     | .038 | 3.1  | 15     | .04    | --    | 1.9 | 30     |
| 145814         | 150    | 7      | 70     | 20     | .029 | 2.2  | 15     | .04    | --    | 1.8 | 50     |
| 145811         | <150   | 7      | 70     | 30     | .022 | 2.5  | 15     | .04    | --    | 1.4 | 50     |
| 145419         | <150   | 10     | 50     | 15     | .100 | 2.6  | 15     | .05    | 6.33  | 1.2 | 30     |
| Oregon County  |        |        |        |        |      |      |        |        |       |     |        |
| 145966         | 150    | 10     | 30     | 20     | .014 | 1.5  | 7      | .03    | --    | 1.2 | 70     |
| 145612         | N      | 3      | 50     | 7      | .025 | 1.5  | 7      | .03    | --    | .7  | 30     |
| 146250         | 150    | 20     | 30     | 20     | .019 | 1.4  | 7      | .04    | --    | .6  | 30     |
| 146365         | <150   | 10     | 50     | 15     | .009 | 1.6  | 10     | .02    | --    | 1.2 | 30     |
| 146334         | 150    | 5      | 30     | 15     | .006 | 1.0  | 5      | .03    | 1.49  | .7  | 30     |
| 146373         | <150   | 5      | 30     | 10     | .012 | 1.3  | 7      | .02    | --    | .6  | 30     |
| 145663         | <150   | 7      | 30     | 7      | .090 | 1.3  | <5     | .02    | --    | .7  | 50     |
| 145750         | <150   | 5      | 20     | 7      | .006 | .8   | <5     | .08    | --    | .7  | 30     |
| 145919         | <150   | 10     | 30     | 10     | .011 | 1.4  | 7      | .09    | --    | 1.1 | 30     |
| 145838         | <150   | 5      | 30     | 10     | .010 | 1.3  | 5      | .02    | --    | .8  | 30     |
| Osage County   |        |        |        |        |      |      |        |        |       |     |        |
| 146465         | <150   | 7      | 70     | 15     | .027 | 2.0  | 15     | .02    | --    | 1.6 | 50     |
| 146088         | <150   | 10     | 70     | 20     | .048 | 2.7  | 15     | .03    | --    | 2.2 | 30     |
| 146547         | <150   | 7      | 30     | 15     | .023 | 1.4  | 7      | .02    | --    | 1.7 | 30     |
| 146186         | 150    | 10     | 70     | 10     | .021 | 2.1  | 15     | .01    | 2.11  | 1.6 | 30     |
| 145875         | 150    | 15     | 70     | 10     | .021 | 2.2  | 15     | .04    | --    | 1.8 | 50     |
| 146221         | 150    | 15     | 70     | 15     | .024 | 1.8  | 15     | .03    | --    | .8  | 50     |
| 146096         | 150    | 7      | 50     | 10     | .013 | 1.4  | 10     | .02    | --    | 1.5 | 30     |
| 146475         | <150   | 7      | 50     | 10     | .014 | 1.5  | 10     | .03    | --    | 1.7 | 30     |
| 145788         | 150    | 20     | 70     | 15     | .025 | 1.6  | 15     | .05    | --    | 1.7 | 70     |
| 146481         | <150   | 7      | 70     | 15     | .017 | 2.3  | 10     | .04    | --    | 1.9 | 30     |



Table 3.--Locations and concentrations of frequently detected elements for agricultural soils of Missouri--continued

| Sample         | Li ppm | Mg % | Mn ppm | Na % | Nb ppm | Nd ppm | Ni ppm | P %  | Pb ppm | Sc ppm | Se ppm |
|----------------|--------|------|--------|------|--------|--------|--------|------|--------|--------|--------|
| Newton County  |        |      |        |      |        |        |        |      |        |        |        |
| 146028         | 22     | .17  | 700    | .33  | 10     | 70     | 7      | .09  | 15     | 7      | .1     |
| 145898         | 19     | .14  | 1,500  | .35  | 10     | 70     | 15     | .09  | 20     | 7      | <.1    |
| 146352         | 19     | .16  | 1,000  | .19  | 10     | 70     | 7      | .13  | 30     | 7      | .2     |
| 145712         | 20     | .16  | 1,000  | .27  | 10     | 70     | 15     | .04  | 15     | 7      | .3     |
| 145574         | 22     | .17  | 1,000  | .36  | 10     | 70     | 7      | .04  | 30     | 7      | .5     |
| 145987         | 21     | .16  | 700    | .22  | 10     | <70    | 15     | .09  | 30     | 7      | .3     |
| 146336         | 18     | .13  | 1,500  | .24  | 10     | 70     | 15     | .09  | 30     | 7      | .2     |
| 145892         | 21     | .14  | 1,500  | .27  | 15     | 70     | 15     | .04  | 20     | 7      | <.1    |
| 146178         | 19     | .11  | 1,000  | .20  | 15     | 70     | 7      | .04  | 30     | 7      | .3     |
| 146292         | 20     | .12  | 700    | .33  | 10     | 70     | 5      | .04  | 15     | 7      | .1     |
| Nodaway County |        |      |        |      |        |        |        |      |        |        |        |
| 146521         | 25     | .52  | 700    | .82  | <10    | 70     | 15     | .09  | 15     | 7      | .7     |
| 145891         | 28     | .60  | 700    | .65  | <10    | 70     | 30     | .07  | 20     | 10     | .3     |
| 145526         | 30     | .07  | 700    | .68  | <10    | 70     | 30     | .07  | 20     | 15     | .6     |
| 145486         | 30     | .57  | 700    | .68  | <10    | 70     | 30     | .05  | 15     | 10     | .6     |
| 145883         | 26     | .63  | 300    | .79  | <10    | <70    | 30     | .10  | 15     | 10     | .3     |
| 146131         | 24     | .45  | 700    | .76  | <10    | 70     | 20     | .09  | 15     | 7      | .4     |
| 145826         | 30     | .61  | 700    | .67  | <10    | <70    | 30     | .05  | 20     | 10     | .4     |
| 145814         | 22     | .48  | 300    | .82  | <10    | 70     | 20     | .06  | 15     | 10     | .5     |
| 145811         | 31     | .36  | 300    | .63  | <10    | 70     | 30     | .12  | 15     | 10     | .6     |
| 145419         | 30     | .40  | 500    | .55  | <10    | <70    | 20     | .07  | 15     | 7      | .4     |
| Oregon County  |        |      |        |      |        |        |        |      |        |        |        |
| 145966         | 19     | .13  | 1,500  | .20  | 10     | 70     | 15     | .09  | 15     | 7      | <.1    |
| 145612         | 20     | .10  | 300    | .10  | <10    | <70    | 7      | .05  | 15     | 7      | .4     |
| 146250         | 21     | .12  | 1,500  | .10  | 10     | 70     | 15     | .03  | 30     | 7      | .2     |
| 146365         | 21     | .19  | 700    | .20  | 10     | <70    | 10     | .09  | 15     | 7      | .1     |
| 146334         | 14     | .08  | 1,000  | .14  | 15     | <70    | 10     | .04  | 15     | <5     | <.1    |
| 146373         | 17     | .10  | 300    | .11  | <10    | <70    | <5     | .03  | 15     | 5      | .4     |
| 145663         | 15     | .08  | 1,000  | .15  | 15     | <70    | 7      | .02  | 20     | 5      | .2     |
| 145750         | 15     | .07  | 150    | .13  | <10    | N      | 5      | <.02 | 15     | <5     | 1.1    |
| 145919         | 21     | .24  | 1,000  | .27  | 10     | <70    | 15     | .04  | 20     | 5      | <.1    |
| 145838         | 19     | .10  | 700    | .13  | <10    | <70    | 10     | <.02 | 20     | 5      | <.1    |
| Osage County   |        |      |        |      |        |        |        |      |        |        |        |
| 146465         | 24     | .36  | 500    | .68  | <10    | 70     | 10     | .04  | 20     | 7      | .3     |
| 146088         | 33     | .66  | 500    | .82  | <10    | 70     | 15     | .09  | 20     | 10     | .5     |
| 146547         | 18     | .23  | 1,000  | .76  | <10    | <70    | 15     | .09  | 15     | 7      | .2     |
| 146186         | 30     | .30  | 300    | .62  | 10     | 70     | 15     | .04  | 15     | 7      | <.1    |
| 145875         | 23     | .32  | 1,500  | .67  | <10    | 70     | 30     | .05  | 30     | 7      | .2     |
| 146221         | 25     | .31  | 1,500  | .65  | <10    | 70     | 15     | .04  | 20     | 7      | .4     |
| 146096         | 23     | .23  | 700    | .44  | <10    | <70    | 10     | .03  | 15     | 7      | <.1    |
| 146475         | 21     | .24  | 500    | .53  | <10    | 70     | 10     | .04  | 15     | 7      | .2     |
| 145788         | 24     | .32  | 1,500  | .60  | 10     | 70     | 30     | .06  | 20     | 7      | <.1    |
| 146481         | 25     | .41  | 700    | .63  | 10     | 70     | 20     | .04  | 15     | 7      | .5     |

Table 3.--Locations and concentrations of frequently detected elements for agricultural soils of Missouri--continued

| Sample         | Si % | Sr ppm | Th ppm | Ti % | U ppm | V ppm | Y ppm | Yb ppm | Zn ppm | Zr ppm |
|----------------|------|--------|--------|------|-------|-------|-------|--------|--------|--------|
| Newton County  |      |        |        |      |       |       |       |        |        |        |
| 146028         | 35   | 70     | --     | .50  | --    | 70    | 30    | 3.0    | 32     | 500    |
| 145898         | 37   | 70     | --     | .30  | --    | 50    | 50    | 5.0    | 39     | 500    |
| 146352         | 35   | 70     | 10.56  | .30  | 4.17  | 70    | 50    | 5.0    | 38     | 700    |
| 145712         | 38   | 70     | --     | .30  | --    | 50    | 30    | 3.0    | 42     | 700    |
| 145574         | 38   | 100    | --     | .50  | --    | 70    | 50    | 5.0    | 39     | 700    |
| 145987         | 35   | 70     | --     | .50  | --    | 100   | 70    | 7.0    | 29     | 700    |
| 146336         | 39   | 100    | --     | .30  | --    | 70    | 70    | 5.0    | 70     | 500    |
| 145892         | 39   | 70     | --     | .70  | --    | 70    | 50    | 5.0    | 45     | 700    |
| 146178         | 39   | 50     | --     | .50  | --    | 70    | 30    | 3.0    | 30     | 700    |
| 146292         | 38   | 70     | 9.12   | .70  | 4.45  | 70    | 50    | 5.0    | 63     | 700    |
| Nodaway County |      |        |        |      |       |       |       |        |        |        |
| 146521         | 31   | 200    | --     | .30  | --    | 70    | 30    | 3.0    | 78     | 150    |
| 145891         | 31   | 200    | --     | .50  | --    | 150   | 30    | 3.0    | 77     | 300    |
| 145526         | 30   | 200    | --     | .30  | --    | 150   | 30    | 3.0    | 88     | 200    |
| 145486         | 31   | 150    | --     | .30  | --    | 100   | 50    | 5.0    | 73     | 300    |
| 145883         | 30   | 200    | --     | .30  | --    | 100   | 30    | 3.0    | 100    | 200    |
| 146131         | 33   | 150    | --     | .30  | --    | 70    | 30    | 3.0    | 73     | 150    |
| 145826         | 31   | 150    | 8.92   | .30  | 4.43  | 100   | 30    | 3.0    | 77     | 300    |
| 145814         | 33   | 200    | --     | .30  | --    | 100   | 30    | 3.0    | 74     | 300    |
| 145811         | 33   | 200    | 7.99   | .30  | 2.19  | 150   | 30    | 3.0    | 61     | 150    |
| 145419         | 32   | 100    | --     | .30  | --    | 70    | 30    | 3.0    | 49     | 200    |
| Oregon County  |      |        |        |      |       |       |       |        |        |        |
| 145966         | 37   | 70     | 7.91   | .50  | 3.94  | 50    | 30    | 3.0    | 29     | 700    |
| 145612         | 40   | 30     | --     | .7   | --    | 50    | 30    | 3.0    | 21     | 700    |
| 146250         | 38   | 30     | --     | .30  | --    | 30    | 30    | 3.0    | 22     | 200    |
| 146365         | 39   | 70     | 4.57   | .50  | 2.40  | 70    | 30    | 3.0    | 29     | 500    |
| 146334         | 41   | 50     | --     | .30  | --    | 30    | 30    | 3.0    | 25     | 500    |
| 146373         | 40   | 30     | --     | .30  | --    | 30    | 20    | 3.0    | 32     | 300    |
| 145663         | 41   | 50     | --     | .50  | --    | 30    | 30    | 3.0    | 24     | 300    |
| 145750         | 42   | 30     | --     | .30  | --    | 20    | 15    | 1.5    | 47     | 150    |
| 145919         | 37   | 50     | --     | .30  | --    | 30    | 30    | 3.0    | 42     | 300    |
| 145838         | 41   | 30     | --     | .50  | --    | 30    | 30    | 3.0    | 24     | 500    |
| Osage County   |      |        |        |      |       |       |       |        |        |        |
| 146465         | 36   | 150    | 12.53  | .30  | 4.34  | 70    | 30    | 3.0    | 44     | 500    |
| 146088         | 30   | 300    | --     | .30  | --    | 100   | 30    | 3.0    | 96     | 150    |
| 146547         | 37   | 150    | --     | .30  | --    | 70    | 30    | 3.0    | 43     | 300    |
| 146186         | 35   | 150    | --     | .30  | --    | 70    | 30    | 3.0    | 45     | 300    |
| 145875         | 37   | 150    | --     | .50  | --    | 70    | 30    | 3.0    | 48     | 300    |
| 146221         | 37   | 100    | --     | .30  | --    | 70    | 30    | 3.0    | 39     | 300    |
| 146096         | 38   | 70     | --     | .30  | --    | 50    | 30    | 3.0    | 34     | 300    |
| 146475         | 38   | 100    | --     | .30  | --    | 70    | 30    | 3.0    | 65     | 300    |
| 145788         | 37   | 150    | --     | .50  | --    | 70    | 50    | 5.0    | 45     | 300    |
| 146481         | 34   | 150    | 11.39  | .30  | 3.48  | 70    | 30    | 3.0    | 58     | 300    |

Table 3.--Locations and concentrations of frequently detected elements for agricultural soils of Missouri--continued

| Sample          | Latitude | Longitude | Al % | As ppm | B ppm | Ba ppm | Be ppm | C %  | C org. % | C crb. % | Ca % |
|-----------------|----------|-----------|------|--------|-------|--------|--------|------|----------|----------|------|
| Ozark County    |          |           |      |        |       |        |        |      |          |          |      |
| 145910          | 36 36 0  | 92 18 0   | 4    | 14.0   | 30    | 500    | 1.0    | 2.18 | 2.2      | <.01     | .7   |
| 145887          | 36 31 1  | 92 28 30  | 5    | 16.0   | 30    | 500    | 1.0    | 5.17 | 5.2      | .02      | .8   |
| 145880          | 36 47 31 | 92 27 57  | 5    | 9.3    | 30    | 300    | 1.0    | 1.96 | 1.5      | .56      | 2.1  |
| 145550          | 36 30 28 | 92 13 58  | 3    | 12.0   | 70    | 200    | N      | .68  | .6       | .07      | <.1  |
| 145959          | 36 36 28 | 92 41 31  | 2    | 6.7    | 50    | 500    | <1.0   | .82  | .8       | <.01     | .1   |
| 146338          | 36 44 31 | 92 36 28  | 3    | 6.7    | 50    | 300    | 1.0    | 1.22 | 1.2      | .05      | .4   |
| 146431          | 36 43 30 | 92 16 1   | 3    | 9.5    | 30    | 200    | N      | 1.42 | 1.4      | .05      | .2   |
| 145448          | 36 39 28 | 92 40 58  | 3    | 7.6    | 30    | 500    | <1.0   | 1.07 | .9       | .13      | .1   |
| 145533          | 36 36 0  | 92 22 30  | 1    | 3.0    | 30    | 200    | N      | 1.27 | 1.2      | .05      | .1   |
| 146233          | 36 45 0  | 92 12 57  | 3    | 26.0   | 30    | 700    | <1.0   | 1.87 | 1.9      | .01      | .1   |
| Pemiscot County |          |           |      |        |       |        |        |      |          |          |      |
| 146128          | 36 18 0  | 89 48 0   | 6    | 9.7    | 30    | 700    | 1.0    | 1.37 | 1.4      | .02      | .6   |
| 146494          | 36 4 1   | 89 46 1   | 5    | 8.4    | 30    | 700    | <1.0   | 1.03 | 1.0      | .01      | .6   |
| 145759          | 36 13 58 | 89 49 58  | 6    | 7.3    | 30    | 700    | 1.0    | 1.91 | 1.9      | <.01     | .7   |
| 145705          | 36 19 1  | 89 39 0   | 4    | 4.2    | 30    | 700    | <1.0   | .94  | .9       | .01      | .6   |
| 145707          | 36 22 1  | 89 37 58  | 4    | 4.4    | 30    | 700    | <1.0   | .84  | .8       | .02      | .5   |
| 146349          | 36 13 58 | 89 55 58  | 3    | 3.8    | 20    | 500    | N      | .62  | .6       | .04      | .4   |
| 146171          | 36 7 58  | 89 52 1   | 7    | 9.2    | 30    | 700    | 1.0    | .70  | .6       | .12      | .5   |
| 145873          | 36 10 58 | 89 39 57  | 4    | 7.6    | 30    | 500    | N      | 1.10 | 1.1      | .03      | .6   |
| 146524          | 36 15 0  | 89 45 0   | 5    | 7.4    | <20   | 700    | N      | .96  | .9       | .05      | .7   |
| 146035          | 36 7 1   | 89 42 0   | 6    | 7.7    | 30    | 700    | 1.0    | 1.19 | 1.1      | .10      | .8   |
| Perry County    |          |           |      |        |       |        |        |      |          |          |      |
| 146166          | 37 39 14 | 89 59 45  | 3    | 5.2    | 30    | 700    | <1.0   | 1.27 | 1.2      | .03      | .2   |
| 145739          | 37 47 13 | 89 49 58  | 5    | 6.1    | 30    | 700    | N      | 1.04 | 1.0      | <.01     | .6   |
| 146444          | 37 40 1  | 89 40 30  | 5    | 8.9    | 30    | 500    | <1.0   | .81  | .8       | .03      | .5   |
| 145736          | 37 43 30 | 89 46 1   | 5    | 10.0   | 30    | 700    | N      | 1.02 | 1.0      | .02      | .5   |
| 146026          | 37 40 58 | 89 45 28  | 5    | 16.0   | 30    | 700    | 1.0    | .67  | .7       | .01      | .4   |
| 146160          | 37 46 1  | 89 43 30  | 5    | 8.8    | 30    | 700    | <1.0   | 1.10 | 1.1      | <.01     | .3   |
| 146554          | 37 52 1  | 89 54 0   | 6    | 8.5    | 30    | 700    | <1.0   | 1.40 | .9       | .46      | 1.7  |
| 145936          | 37 37 30 | 89 47 31  | 5    | 8.9    | 30    | 700    | 1.0    | .81  | .8       | <.01     | .3   |
| 146387          | 37 42 0  | 89 34 30  | 4    | 8.0    | 30    | 700    | 1.0    | .58  | .5       | .04      | .4   |
| 145549          | 37 45 28 | 89 52 30  | 5    | 8.4    | 30    | 700    | <1.0   | 1.13 | 1.1      | .07      | .3   |
| Pettis County   |          |           |      |        |       |        |        |      |          |          |      |
| 146181          | 38 40 58 | 93 10 58  | 4    | 14.0   | 30    | 700    | <1.0   | 1.60 | 1.6      | .03      | .5   |
| 145991          | 38 54 28 | 93 21 28  | 4    | 10.0   | 30    | 700    | 1.0    | 1.53 | 1.5      | <.01     | .4   |
| 146324          | 38 48 0  | 93 21 0   | 4    | 10.0   | 70    | 1,000  | 1.0    | 1.54 | 1.5      | .01      | .4   |
| 145563          | 38 47 31 | 93 24 28  | 6    | 13.0   | 30    | 700    | <1.0   | 1.78 | 1.7      | .11      | .6   |
| 146299          | 38 51 0  | 93 18 0   | 5    | 8.8    | 30    | 1,000  | 1.5    | 1.60 | 1.6      | <.01     | .5   |
| 145493          | 38 46 1  | 93 11 31  | 5    | 8.2    | 50    | 700    | 1.0    | 1.26 | 1.2      | .04      | .4   |
| 146220          | 38 34 1  | 93 21 0   | 6    | 13.0   | 30    | 700    | 1.0    | 1.16 | 1.1      | .02      | .4   |
| 146307          | 38 38 31 | 93 15 0   | 4    | 6.5    | 70    | 700    | N      | 1.28 | 1.2      | .04      | .4   |
| 145540          | 38 39 0  | 93 4 58   | 4    | 4.6    | 30    | 700    | N      | 1.00 | 1.0      | .05      | .3   |
| 145844          | 38 32 31 | 93 28 58  | 5    | 13.0   | 70    | 700    | 1.5    | 1.54 | 1.5      | <.01     | .4   |

Table 3.--Locations and concentrations of frequently detected elements for agricultural soils of Missouri--continued

| Sample          | Ce ppm | Co ppm | Cr ppm | Cu ppm | F%   | Fe % | Ga ppm | Hg ppm | I ppm | K % | La ppm |
|-----------------|--------|--------|--------|--------|------|------|--------|--------|-------|-----|--------|
| Ozark County    |        |        |        |        |      |      |        |        |       |     |        |
| 145910          | 150    | 7      | 70     | 30     | .037 | 2.2  | 15     | .03    | --    | 1.9 | 50     |
| 145887          | 150    | 15     | 50     | 30     | .027 | 3.4  | 15     | .17    | --    | 1.5 | 30     |
| 145880          | <150   | 7      | 30     | 7      | .012 | 1.3  | 5      | .04    | --    | 1.1 | 30     |
| 145550          | <150   | 15     | 30     | 7      | .066 | 1.7  | 7      | .04    | 4.17  | .8  | 30     |
| 145959          | <150   | 15     | 30     | 15     | .008 | 1.3  | 5      | .03    | --    | 1.1 | 30     |
| 146338          | 150    | 15     | 50     | 30     | .010 | 1.3  | 7      | .03    | --    | .9  | 50     |
| 146431          | <150   | 10     | 50     | 10     | .015 | 1.5  | 7      | .03    | --    | .8  | 30     |
| 145448          | <150   | 15     | 30     | 10     | .018 | 1.3  | 7      | .05    | --    | 1.9 | 30     |
| 145533          | N      | 3      | 15     | 10     | .092 | .5   | <5     | .04    | --    | .8  | N      |
| 146233          | <150   | 10     | 50     | 10     | .011 | 1.5  | 7      | .07    | --    | 1.0 | 50     |
| Pemiscot County |        |        |        |        |      |      |        |        |       |     |        |
| 146128          | <150   | 7      | 50     | 20     | .040 | 2.9  | 15     | .05    | --    | 2.0 | 30     |
| 146494          | <150   | 10     | 50     | 15     | .039 | 2.0  | 15     | .01    | --    | 2.0 | 30     |
| 145759          | <150   | 7      | 70     | 30     | .034 | 2.9  | 15     | .07    | --    | 1.9 | 30     |
| 145705          | <150   | 7      | 20     | 7      | .047 | 1.3  | 10     | .22    | 1.20  | 1.7 | 30     |
| 145707          | N      | 7      | 30     | 7      | .021 | 1.3  | 7      | .05    | --    | 1.7 | 30     |
| 146349          | <150   | 3      | 30     | 7      | .011 | 1.0  | 10     | .03    | --    | 1.6 | 30     |
| 146171          | <150   | 15     | 50     | 20     | .036 | 3.3  | 15     | .04    | --    | 1.5 | 30     |
| 145873          | <150   | 7      | 30     | 10     | .023 | 1.7  | 15     | .04    | --    | 2.0 | 30     |
| 146524          | <150   | 5      | 20     | 10     | .033 | 1.8  | 7      | .02    | --    | 2.0 | 30     |
| 146035          | <150   | 15     | 50     | 20     | .470 | 3.0  | 15     | .06    | --    | 2.2 | 50     |
| Perry County    |        |        |        |        |      |      |        |        |       |     |        |
| 146166          | 150    | 10     | 30     | 15     | .021 | 1.3  | 7      | .02    | --    | 1.3 | 50     |
| 145739          | <150   | 7      | 30     | 7      | .018 | 1.8  | 10     | .04    | --    | 1.9 | 50     |
| 146444          | <150   | 7      | 70     | 10     | .030 | 2.2  | 10     | .03    | 3.17  | 1.7 | 30     |
| 145736          | 150    | 7      | 50     | 10     | .024 | 2.6  | 10     | .04    | --    | 1.9 | 50     |
| 146026          | 150    | 15     | 70     | 30     | .037 | 3.0  | 15     | .06    | --    | 2.0 | 50     |
| 146160          | <150   | 10     | 50     | 15     | .031 | 2.4  | 15     | .05    | --    | 1.7 | 30     |
| 146554          | <150   | 7      | 50     | 15     | .047 | 2.0  | 15     | .01    | --    | 2.1 | 30     |
| 145936          | 150    | 15     | 70     | 20     | .025 | 2.4  | 15     | .04    | --    | 1.9 | 70     |
| 146387          | <150   | 7      | 30     | 10     | .004 | 1.9  | 15     | .04    | --    | 2.1 | 30     |
| 145549          | <150   | 15     | 70     | 15     | .160 | 2.2  | 15     | .04    | --    | 1.6 | 30     |
| Pettis County   |        |        |        |        |      |      |        |        |       |     |        |
| 146181          | 150    | 15     | 70     | 15     | .023 | 2.3  | 15     | .04    | --    | 1.3 | 50     |
| 145991          | <150   | 7      | 70     | 15     | .022 | 2.1  | 15     | .08    | --    | 1.8 | 50     |
| 146324          | 150    | 7      | 70     | 15     | .021 | 1.9  | 15     | .03    | 5.54  | 1.7 | 30     |
| 145563          | 150    | 10     | 70     | 15     | .120 | 2.4  | 15     | .09    | --    | 1.7 | 70     |
| 146299          | 150    | 7      | 70     | 15     | .025 | 1.8  | 15     | .02    | --    | 1.7 | 70     |
| 145493          | 150    | 15     | 70     | 15     | .260 | 2.2  | 15     | .04    | --    | 1.9 | 70     |
| 146220          | 150    | 15     | 70     | 20     | .031 | 2.9  | 15     | .02    | --    | 1.3 | 50     |
| 146307          | 150    | 7      | 70     | 15     | .020 | 1.5  | 15     | .05    | --    | 1.5 | 50     |
| 145540          | <150   | 3      | 30     | 7      | .210 | .9   | 7      | .04    | --    | 1.6 | 30     |
| 145844          | 150    | 15     | 70     | 15     | .026 | 3.0  | 15     | .03    | --    | 1.4 | 50     |

Table 3.--Locations and concentrations of frequently detected elements for agricultural soils of Missouri--continued

| Sample          | Li ppm | Mg % | Mn ppm | Na % | Nb ppm | Nd ppm | Ni ppm | P % | Pb ppm | Sc ppm | Se ppm |
|-----------------|--------|------|--------|------|--------|--------|--------|-----|--------|--------|--------|
| Ozark County    |        |      |        |      |        |        |        |     |        |        |        |
| 145910          | 28     | .48  | 1,000  | .24  | <10    | 70     | 20     | .09 | 20     | 10     | .3     |
| 145887          | 36     | .63  | 1,500  | .16  | <10    | 70     | 30     | .10 | 50     | 7      | .1     |
| 145880          | 15     | .13  | 1,000  | .13  | <10    | <70    | 15     | .08 | 30     | 5      | <.1    |
| 145550          | 20     | .18  | 1,000  | .16  | 10     | <70    | 10     | .02 | 20     | 5      | .5     |
| 145959          | 16     | .10  | 1,500  | .19  | <10    | <70    | 7      | .04 | 20     | 5      | <.1    |
| 146338          | 19     | .13  | 1,500  | .18  | 10     | <70    | 15     | .04 | 30     | 7      | <.1    |
| 146431          | 18     | .17  | 1,500  | .16  | <10    | <70    | 7      | .04 | 15     | 5      | .5     |
| 145448          | 17     | .13  | 700    | .24  | <10    | <70    | 7      | .06 | 30     | 7      | .2     |
| 145533          | 10     | .10  | 700    | .13  | <10    | --     | 7      | .03 | 15     | <5     | .2     |
| 146233          | 15     | .11  | 1,500  | .24  | 10     | 70     | 7      | .04 | 15     | 7      | .1     |
| Pemiscot County |        |      |        |      |        |        |        |     |        |        |        |
| 146128          | 31     | .61  | 700    | .67  | <10    | 70     | 30     | .13 | 20     | 15     | .4     |
| 146494          | 22     | .45  | 500    | .78  | <10    | <70    | 20     | .13 | 15     | 7      | .7     |
| 145759          | 33     | .24  | 300    | .63  | <10    | <70    | 20     | .14 | 30     | 10     | .4     |
| 145705          | 14     | .23  | 300    | .98  | <10    | <70    | 20     | .12 | 15     | 5      | .5     |
| 145707          | 14     | .24  | 300    | .94  | <10    | <70    | 30     | .11 | 15     | 7      | .5     |
| 146349          | 12     | .16  | 150    | .69  | <10    | <70    | 10     | .09 | 15     | <5     | .1     |
| 146171          | 33     | .66  | 700    | .50  | <10    | <70    | 20     | .09 | 15     | 15     | .4     |
| 145873          | 17     | .36  | 300    | 1.03 | <10    | <70    | 15     | .17 | 20     | 7      | .2     |
| 146524          | 22     | .42  | 300    | .92  | <10    | <70    | 10     | .09 | 15     | 7      | .2     |
| 146035          | 35     | .69  | 700    | .74  | <10    | 70     | 30     | .13 | 15     | 10     | <.1    |
| Perry County    |        |      |        |      |        |        |        |     |        |        |        |
| 146166          | 17     | .16  | 1,000  | .46  | <10    | 70     | 15     | .09 | 20     | 7      | .1     |
| 145739          | 18     | .26  | 700    | .85  | <10    | 70     | 15     | .06 | 15     | 7      | <.1    |
| 146444          | 20     | .35  | 700    | .80  | <10    | <70    | 15     | .04 | 20     | 7      | .5     |
| 145736          | 21     | .39  | 700    | .66  | <10    | 70     | 20     | .07 | 20     | 7      | .5     |
| 146026          | 25     | .62  | 700    | .65  | <10    | 70     | 20     | .09 | 15     | 15     | <.1    |
| 146160          | 21     | .37  | 500    | .65  | <10    | 70     | 20     | .09 | 15     | 10     | .2     |
| 146554          | 25     | .84  | 300    | .96  | <10    | <70    | 30     | .09 | 15     | 7      | .5     |
| 145936          | 22     | .36  | 700    | .65  | 10     | 70     | 20     | .09 | 20     | 10     | <.1    |
| 146387          | 20     | .29  | 1,000  | .81  | <10    | <70    | 15     | .09 | 15     | 7      | .2     |
| 145549          | 22     | .34  | 700    | .66  | <10    | <70    | 15     | .05 | 15     | 10     | .3     |
| Pettis County   |        |      |        |      |        |        |        |     |        |        |        |
| 146181          | 24     | .33  | 1,000  | .73  | <10    | 70     | 15     | .04 | 30     | 7      | .5     |
| 145991          | 18     | .25  | 500    | .93  | <10    | 70     | 10     | .09 | 15     | 7      | .5     |
| 146324          | 20     | .30  | 700    | .71  | 10     | 70     | 10     | .04 | 20     | 7      | .6     |
| 145563          | 24     | .41  | 1,000  | .71  | <10    | 70     | 15     | .07 | 15     | 10     | .7     |
| 146299          | 19     | .36  | 500    | .92  | 10     | 70     | 15     | .09 | 15     | 10     | .5     |
| 145493          | 22     | .38  | 1,500  | .65  | 10     | 70     | 20     | .06 | 20     | 15     | .4     |
| 146220          | 24     | .39  | 1,500  | .68  | <10    | 70     | 15     | .04 | 20     | 7      | .9     |
| 146307          | 19     | .25  | 700    | .69  | 10     | 70     | 15     | .09 | 15     | 7      | .2     |
| 145540          | 14     | .17  | 300    | 1.11 | 10     | <70    | 7      | .07 | 15     | 7      | .6     |
| 145844          | 24     | .37  | 1,500  | .74  | <10    | 70     | 30     | .06 | 30     | 10     | .7     |



Table 3.--Locations and concentrations of frequently detected elements for agricultural soils of Missouri--continued

| Sample          | Si % | Sr ppm | Th ppm | Ti % | U ppm | V ppm | Y ppm | Yb ppm | Zn ppm | Zr ppm |
|-----------------|------|--------|--------|------|-------|-------|-------|--------|--------|--------|
| Ozark County    |      |        |        |      |       |       |       |        |        |        |
| 145910          | 31   | 70     | --     | .30  | --    | 70    | 30    | 3.0    | 46     | 200    |
| 145887          | 30   | 70     | 11.63  | .30  | 3.82  | 70    | 30    | 3.0    | 63     | 200    |
| 145880          | 38   | 70     | --     | .30  | --    | 30    | 30    | 3.0    | 61     | 200    |
| 145550          | 38   | 50     | --     | .30  | --    | 50    | 30    | 3.0    | 36     | 500    |
| 145959          | 37   | 70     | --     | .30  | 7.86  | 50    | 30    | 3.0    | 37     | 500    |
| 146338          | 40   | 70     | --     | .30  | --    | 50    | 30    | 3.0    | 370    | 500    |
| 146431          | 39   | 50     | --     | .30  | --    | 30    | 30    | 3.0    | 35     | 300    |
| 145448          | 38   | 70     | --     | .50  | --    | 50    | 30    | 3.0    | 40     | 300    |
| 145533          | 41   | 30     | --     | .20  | --    | 15    | 15    | 1.5    | 63     | 200    |
| 146233          | 38   | 70     | --     | .50  | --    | 50    | 30    | 3.0    | 25     | 300    |
| Pemiscot County |      |        |        |      |       |       |       |        |        |        |
| 146128          | 33   | 150    | --     | .30  | --    | 150   | 30    | 3.0    | 97     | 100    |
| 146494          | 35   | 200    | --     | .20  | --    | 70    | 30    | 2.0    | 69     | 100    |
| 145759          | 31   | 150    | --     | .30  | --    | 100   | 30    | 2.0    | 121    | 100    |
| 145705          | 38   | 150    | --     | .15  | --    | 50    | 20    | 2.0    | 54     | 200    |
| 145707          | 37   | 150    | --     | .15  | --    | 50    | 15    | 1.5    | 45     | 200    |
| 146349          | 39   | 150    | --     | .15  | --    | 70    | 15    | 1.5    | 26     | 150    |
| 146171          | 31   | 150    | --     | .30  | --    | 150   | 30    | 3.0    | 83     | 150    |
| 145873          | 36   | 150    | 6.98   | .20  | 2.45  | 50    | 15    | 1.5    | 58     | 150    |
| 146524          | 36   | 150    | --     | .15  | --    | 50    | 15    | 1.5    | 63     | 100    |
| 146035          | 29   | 150    | 10.18  | .30  | 3.54  | 100   | 30    | 3.0    | 89     | 150    |
| Perry County    |      |        |        |      |       |       |       |        |        |        |
| 146166          | 38   | 100    | --     | .30  | --    | 50    | 50    | 3.0    | 45     | 300    |
| 145739          | 40   | 150    | 9.19   | .30  | 3.37  | 70    | 30    | 3.0    | 42     | 300    |
| 146444          | 35   | 150    | --     | .30  | --    | 70    | 30    | 3.0    | 51     | 300    |
| 145736          | 36   | 150    | 13.58  | .30  | 3.88  | 70    | 30    | 3.0    | 250    | 300    |
| 146026          | 31   | 150    | --     | .50  | --    | 150   | 30    | 3.0    | 78     | 300    |
| 146160          | 33   | 150    | --     | .30  | --    | 70    | 50    | 3.0    | 57     | 500    |
| 146554          | 32   | 200    | --     | .30  | --    | 70    | 30    | 3.0    | 66     | 150    |
| 145936          | 33   | 200    | --     | .30  | --    | 100   | 50    | 5.0    | 57     | 500    |
| 146387          | 36   | 100    | --     | .30  | --    | 70    | 30    | 3.0    | 53     | 300    |
| 145549          | 34   | 150    | --     | .30  | --    | 70    | 50    | 5.0    | 51     | 300    |
| Pettis County   |      |        |        |      |       |       |       |        |        |        |
| 146181          | 33   | 150    | --     | .30  | --    | 100   | 30    | 3.0    | 46     | 300    |
| 145991          | 33   | 150    | --     | .30  | --    | 70    | 30    | 3.0    | 38     | 700    |
| 146324          | 35   | 150    | --     | .30  | --    | 100   | 30    | 5.0    | 44     | 200    |
| 145563          | 32   | 150    | --     | .30  | --    | 100   | 50    | 3.0    | 50     | 300    |
| 146299          | 33   | 300    | --     | .50  | --    | 150   | 50    | 5.0    | 45     | 500    |
| 145493          | 34   | 150    | 8.95   | .50  | 4.14  | 100   | 50    | 5.0    | 58     | 500    |
| 146220          | 33   | 150    | --     | .30  | --    | 100   | 30    | 3.0    | 47     | 300    |
| 146307          | 37   | 150    | --     | .30  | --    | 70    | 30    | 5.0    | 36     | 300    |
| 145540          | 38   | 100    | 9.75   | .30  | 3.55  | 50    | 30    | 3.0    | 30     | 500    |
| 145844          | 35   | 150    | --     | .30  | --    | 100   | 50    | 5.0    | 55     | 300    |

Table 3.--Locations and concentrations of frequently detected elements for agricultural soils of Missouri--continued

| Sample        | Latitude | Longitude | Al % | As ppm | B ppm | Ba ppm | Be ppm | C %  | C org. % | C crb. % | Ca % |
|---------------|----------|-----------|------|--------|-------|--------|--------|------|----------|----------|------|
| Phelps County |          |           |      |        |       |        |        |      |          |          |      |
| 146542        | 38 6 0   | 91 34 1   | 3    | 7.9    | 30    | 500    | N      | 1.39 | 1.4      | .03      | .3   |
| 145965        | 38 1 1   | 91 52 1   | 2    | 4.1    | 30    | 700    | N      | 1.17 | 1.1      | .03      | .3   |
| 145552        | 38 1 1   | 91 40 1   | 4    | 12.0   | 30    | 700    | N      | 1.09 | 1.0      | .09      | .1   |
| 145721        | 38 1 58  | 91 34 1   | 5    | 19.0   | 30    | 700    | <1.0   | .71  | .7       | .01      | .1   |
| 146134        | 37 52 1  | 91 58 1   | 3    | 4.8    | 30    | 700    | <1.0   | 1.04 | 1.0      | .04      | .3   |
| 146183        | 37 43 1  | 91 52 1   | 5    | 12.0   | 30    | 500    | <1.0   | 1.80 | 1.7      | .08      | .6   |
| 146261        | 37 55 1  | 91 40 58  | 4    | 11.0   | 30    | 700    | 1.0    | 1.26 | 1.2      | .02      | .3   |
| 145517        | 37 52 1  | 91 42 0   | 3    | 5.7    | 30    | 500    | 1.0    | 1.30 | 1.2      | .11      | .4   |
| 145637        | 37 52 1  | 91 37 1   | 3    | 8.2    | 30    | 500    | <1.0   | .94  | .9       | .05      | .1   |
| 145626        | 37 58 1  | 91 34 58  | 2    | 4.4    | 30    | 300    | N      | .78  | .6       | .19      | .4   |
| Pike County   |          |           |      |        |       |        |        |      |          |          |      |
| 145743        | 39 28 30 | 91 5 31   | 4    | 5.6    | 30    | 700    | <1.0   | 1.92 | 1.5      | .39      | 2.0  |
| 146167        | 39 25 1  | 90 58 58  | 4    | 5.0    | 30    | 500    | N      | 1.12 | 1.1      | .01      | .7   |
| 146491        | 39 18 28 | 90 50 16  | 4    | 5.2    | 20    | 700    | <1.0   | 1.76 | 1.8      | <.01     | .6   |
| 146038        | 39 18 0  | 90 53 13  | 5    | 8.5    | 30    | 500    | <1.0   | .87  | .8       | .02      | .6   |
| 146457        | 39 16 44 | 91 1 58   | 5    | 7.0    | 20    | 700    | 1.0    | 1.19 | 1.1      | .05      | .4   |
| 145524        | 39 22 58 | 91 12 28  | 5    | 13.0   | 30    | 700    | 1.0    | 1.25 | 1.2      | .07      | .4   |
| 146430        | 39 25 15 | 91 19 30  | 4    | 12.0   | 20    | 500    | N      | 1.65 | 1.6      | .06      | .4   |
| 145546        | 39 21 0  | 91 18 28  | 5    | 9.7    | 30    | 700    | <1.0   | 1.15 | 1.0      | .10      | .6   |
| 146369        | 39 16 1  | 91 11 31  | 4    | 7.3    | 50    | 700    | 1.0    | 1.45 | 1.4      | .07      | .6   |
| 145665        | 39 10 15 | 91 18 28  | 4    | 14.0   | 30    | 700    | 1.0    | 1.36 | 1.3      | .05      | .4   |
| Platte County |          |           |      |        |       |        |        |      |          |          |      |
| 145940        | 39 31 58 | 94 40 58  | 5    | 11.0   | 30    | 1,000  | 1.0    | 1.57 | 1.6      | <.01     | .5   |
| 146084        | 39 28 1  | 94 43 58  | 5    | 13.0   | 30    | 700    | <1.0   | 2.24 | 2.2      | .03      | .5   |
| 145506        | 39 29 45 | 95 1 30   | 6    | 8.5    | 30    | 700    | 1.0    | .79  | .7       | .07      | .9   |
| 146575        | 39 26 45 | 94 57 28  | 5    | 9.0    | 30    | 1,000  | <1.0   | 1.18 | 1.1      | .04      | .9   |
| 145816        | 39 17 45 | 94 39 0   | 5    | 10.0   | 30    | 700    | N      | 1.72 | 1.7      | .01      | .6   |
| 145675        | 39 25 44 | 94 54 0   | 5    | 12.0   | 50    | 700    | 1.0    | .99  | 1.0      | .04      | .5   |
| 145655        | 39 23 31 | 94 46 30  | 5    | 5.0    | 30    | 700    | 1.0    | 1.88 | 1.8      | .02      | .6   |
| 146051        | 39 25 1  | 94 37 58  | 4    | 8.4    | 30    | 1,000  | 1.0    | 1.44 | 1.4      | <.01     | .4   |
| 145555        | 39 17 31 | 94 50 45  | 7    | 12.0   | 70    | 700    | <1.0   | 1.94 | 1.8      | .10      | .8   |
| 146217        | 39 12 0  | 94 46 1   | 5    | 9.8    | 30    | 700    | 1.0    | 2.66 | 2.6      | .02      | 1.2  |
| Polk County   |          |           |      |        |       |        |        |      |          |          |      |
| 146275        | 37 40 1  | 93 13 58  | 3    | 7.5    | 30    | 700    | <1.0   | .90  | .9       | <.01     | .2   |
| 145858        | 37 32 31 | 93 32 31  | 4    | 7.4    | 30    | 700    | 1.5    | 1.54 | 1.5      | .03      | .3   |
| 146078        | 37 37 58 | 93 25 1   | 2    | 7.9    | 30    | 300    | 1.5    | .82  | .8       | .03      | .1   |
| 146272        | 37 40 58 | 93 30 57  | 3    | 10.0   | 30    | 500    | <1.0   | 2.02 | 2.0      | .03      | .3   |
| 145468        | 37 42 28 | 93 28 44  | 4    | 9.6    | 30    | 500    | N      | 1.46 | 1.4      | .06      | .3   |
| 146257        | 37 36 0  | 93 22 58  | 4    | 11.0   | 50    | 500    | 1.5    | 2.47 | 2.5      | <.01     | .2   |
| 145538        | 37 35 31 | 93 25 30  | 3    | 9.9    | 30    | 500    | N      | 1.18 | 1.1      | .04      | .1   |
| 146067        | 37 35 31 | 93 10 58  | 3    | 8.1    | 30    | 300    | N      | 1.14 | 1.1      | .02      | .1   |
| 146114        | 37 28 15 | 93 25 58  | 4    | 11.0   | 30    | 700    | N      | 1.47 | 1.5      | <.01     | .2   |
| 146034        | 37 26 31 | 93 15 0   | 3    | 5.9    | 30    | 500    | <1.0   | 1.01 | 1.0      | .02      | .1   |

Table 3.--Locations and concentrations of frequently detected elements for agricultural soils of Missouri--continued

| Sample        | Ce ppm | Co ppm | Cr ppm | Cu ppm | F%   | Fe % | Ga ppm | Hg ppm | I ppm | K % | La ppm |
|---------------|--------|--------|--------|--------|------|------|--------|--------|-------|-----|--------|
| Phelps County |        |        |        |        |      |      |        |        |       |     |        |
| 146542        | <150   | 10     | 50     | 7      | .022 | 1.5  | 7      | .02    | --    | 1.4 | 30     |
| 145965        | <150   | 10     | 30     | 15     | .013 | 1.3  | 7      | .03    | 4.77  | 1.0 | 30     |
| 145552        | <150   | 15     | 70     | 10     | .210 | 2.1  | 10     | .09    | --    | 1.3 | 50     |
| 145721        | <150   | 10     | 50     | 20     | .025 | 2.7  | 15     | .06    | --    | 1.2 | 30     |
| 146134        | <150   | 10     | 30     | 10     | .038 | 1.3  | 10     | .04    | --    | 1.3 | 50     |
| 146183        | 150    | 10     | 70     | 10     | .019 | 2.4  | 15     | .01    | --    | 1.2 | 30     |
| 146261        | 150    | 15     | 70     | 15     | .026 | 2.4  | 15     | .04    | --    | 1.2 | 70     |
| 145517        | <150   | 7      | 70     | 15     | .130 | 1.5  | 7      | .04    | --    | 1.2 | 50     |
| 145637        | <150   | 7      | 30     | 10     | .020 | 1.7  | 7      | .08    | --    | 1.2 | 30     |
| 145626        | <150   | 7      | 30     | 7      | .015 | 1.0  | <5     | .03    | --    | 1.0 | 30     |
| Pike County   |        |        |        |        |      |      |        |        |       |     |        |
| 145743        | <150   | 7      | 50     | 10     | .024 | 2.0  | 10     | .03    | --    | 1.9 | 30     |
| 146167        | <150   | 7      | 50     | 10     | .028 | 1.7  | 7      | .03    | --    | 1.8 | 30     |
| 146491        | <150   | 7      | 50     | 15     | .020 | 1.9  | 10     | .01    | --    | 1.9 | 30     |
| 146038        | 150    | 15     | 50     | 20     | .460 | 2.8  | 15     | .04    | --    | 1.9 | 30     |
| 146457        | 150    | 10     | 70     | 15     | .023 | 1.8  | 15     | .03    | --    | 1.9 | 50     |
| 145524        | 150    | 15     | 70     | 10     | .070 | 2.7  | 15     | .04    | --    | 1.5 | 70     |
| 146430        | <150   | 7      | 50     | 10     | .012 | 2.2  | 10     | .01    | --    | 1.5 | 30     |
| 145546        | 150    | 7      | 70     | 15     | .070 | 1.8  | 15     | .05    | 3.93  | 1.5 | 50     |
| 146369        | 150    | 10     | 50     | 15     | .017 | 2.0  | 10     | .03    | --    | 1.0 | 30     |
| 145665        | 150    | 15     | 70     | 7      | .092 | 2.7  | 10     | .01    | --    | 1.5 | 70     |
| Platte County |        |        |        |        |      |      |        |        |       |     |        |
| 145940        | 150    | 10     | 70     | 20     | .030 | 2.7  | 15     | .02    | --    | 2.0 | 70     |
| 146084        | <150   | 7      | 70     | 20     | .031 | 2.4  | 15     | .06    | --    | 1.9 | 30     |
| 145506        | <150   | 10     | 70     | 15     | .170 | 2.1  | 15     | .02    | --    | 1.8 | 50     |
| 146575        | <150   | 7      | 50     | 15     | .045 | 2.1  | 15     | .04    | --    | 2.2 | 30     |
| 145816        | 150    | 10     | 70     | 20     | .029 | 2.5  | 15     | .04    | 6.47  | 1.9 | 70     |
| 145675        | 150    | 15     | 70     | 15     | .040 | 2.7  | 15     | .05    | --    | 2.0 | 50     |
| 145655        | 150    | 7      | 70     | 15     | .094 | 1.7  | 10     | .05    | --    | 1.9 | 50     |
| 146051        | <150   | 10     | 70     | 15     | .026 | 2.3  | 10     | .04    | --    | 1.7 | 50     |
| 145555        | <150   | 10     | 70     | 30     | .150 | 3.3  | 20     | .16    | --    | 2.2 | 50     |
| 146217        | 150    | 7      | 50     | 20     | .031 | 2.3  | 15     | .06    | --    | 1.8 | 70     |
| Polk County   |        |        |        |        |      |      |        |        |       |     |        |
| 146275        | 150    | 15     | 50     | 10     | .011 | 1.8  | 7      | .03    | --    | 1.4 | 30     |
| 145858        | 150    | 15     | 70     | 15     | .021 | 2.2  | 15     | .04    | --    | 1.5 | 50     |
| 146078        | 150    | 15     | 50     | 10     | .010 | 1.7  | 5      | .06    | --    | .7  | 30     |
| 146272        | 150    | 15     | 70     | 15     | .017 | 2.2  | 10     | .03    | --    | .8  | 50     |
| 145468        | 150    | 15     | 50     | 15     | .021 | 2.4  | 10     | .08    | --    | 1.4 | 50     |
| 146257        | 150    | 15     | 70     | 10     | .039 | 2.8  | 15     | .05    | 7.28  | 1.3 | 30     |
| 145538        | 150    | 15     | 70     | 15     | .170 | 2.4  | 10     | .05    | --    | .8  | 50     |
| 146067        | <150   | 10     | 50     | 7      | .013 | 1.9  | 10     | .03    | --    | .7  | 30     |
| 146114        | 150    | 15     | 70     | 10     | .016 | 1.9  | 10     | .03    | --    | 1.1 | 50     |
| 146034        | 150    | 15     | 50     | 10     | .540 | 1.7  | 7      | .01    | --    | 1.1 | 30     |

Table 3.--Locations and concentrations of frequently detected elements for agricultural soils of Missouri--continued

| Sample        | Li ppm | Mg % | Mn ppm | Na % | Nb ppm | Nd ppm | Ni ppm | P % | Pb ppm | Sc ppm | Se ppm |
|---------------|--------|------|--------|------|--------|--------|--------|-----|--------|--------|--------|
| Phelps County |        |      |        |      |        |        |        |     |        |        |        |
| 146542        | 21     | .23  | 700    | .53  | <10    | 70     | 7      | .04 | 15     | 5      | .5     |
| 145965        | 15     | .16  | 1,000  | .22  | 10     | <70    | 20     | .09 | 15     | 7      | <.1    |
| 145552        | 24     | .26  | 1,500  | .51  | <10    | <70    | 10     | .04 | 20     | 7      | .6     |
| 145721        | 26     | .33  | 1,000  | .45  | <10    | 70     | 15     | .03 | 30     | 7      | .9     |
| 146134        | 19     | .19  | 1,500  | .44  | 10     | 70     | 15     | .09 | 15     | 7      | <.1    |
| 146183        | 26     | .31  | 700    | .41  | 10     | 70     | 15     | .04 | 20     | 7      | .3     |
| 146261        | 27     | .23  | 1,500  | .39  | 10     | 70     | 15     | .09 | 20     | 7      | .3     |
| 145517        | 18     | .24  | 700    | .45  | 10     | 70     | 15     | .08 | 15     | 7      | .4     |
| 145637        | 22     | .23  | 300    | .36  | <10    | <70    | 7      | .03 | 15     | 7      | .9     |
| 145626        | 14     | .15  | 700    | .26  | <10    | <70    | 7      | .09 | 15     | <5     | .1     |
| Pike County   |        |      |        |      |        |        |        |     |        |        |        |
| 145743        | 15     | .40  | 500    | .91  | <10    | <70    | 15     | .12 | 15     | 7      | .2     |
| 146167        | 14     | .28  | 700    | .97  | <10    | 70     | 15     | .09 | 15     | 7      | <.1    |
| 146491        | 24     | .36  | 500    | .67  | <10    | <70    | 15     | .09 | 15     | 7      | .8     |
| 146038        | 21     | .48  | 700    | .85  | <10    | 70     | 20     | .09 | 15     | 10     | <.1    |
| 146457        | 20     | .32  | 1,500  | .68  | <10    | 70     | 20     | .04 | 15     | 10     | .4     |
| 145524        | 21     | .35  | 1,500  | .77  | <10    | 70     | 15     | .07 | 20     | 7      | .7     |
| 146430        | 20     | .28  | 1,000  | .79  | <10    | 70     | 10     | .09 | 15     | 7      | .6     |
| 145546        | 18     | .25  | 1,000  | 1.11 | 10     | 70     | 10     | .03 | 15     | 7      | .6     |
| 146369        | 20     | .30  | 1,000  | .62  | <10    | 70     | 15     | .04 | 15     | 7      | .2     |
| 145665        | 16     | .26  | 1,500  | .74  | 10     | 70     | 15     | .07 | 20     | 10     | 1.0    |
| Platte County |        |      |        |      |        |        |        |     |        |        |        |
| 145940        | 24     | .45  | 700    | .75  | 10     | 70     | 30     | .09 | 20     | 10     | <.1    |
| 146084        | 25     | .46  | 700    | .80  | 10     | 70     | 20     | .09 | 20     | 7      | <.1    |
| 145506        | 19     | .48  | 700    | .10  | 10     | 70     | 30     | .14 | 15     | 10     | .2     |
| 146575        | 25     | .58  | 300    | 1.02 | <10    | <70    | 20     | .09 | 15     | 7      | .3     |
| 145816        | 22     | .42  | 700    | .77  | <10    | 70     | 30     | .10 | 30     | 10     | .2     |
| 145675        | 25     | .55  | 700    | .87  | 10     | 70     | 30     | .12 | 20     | 10     | .4     |
| 145655        | 19     | .30  | 500    | .84  | 10     | 70     | 15     | .07 | 15     | 7      | .4     |
| 146051        | 24     | .31  | 700    | .64  | <10    | 70     | 15     | .09 | 15     | 7      | <.1    |
| 145555        | 37     | .89  | 500    | .59  | <10    | 70     | 30     | .09 | 15     | 15     | .7     |
| 146217        | 28     | .42  | 300    | .77  | <10    | 70     | 15     | .09 | 30     | 7      | .3     |
| Polk County   |        |      |        |      |        |        |        |     |        |        |        |
| 146275        | 21     | .14  | 1,500  | .44  | 10     | 70     | 10     | .04 | 20     | 7      | .2     |
| 145858        | 25     | .24  | 1,500  | .30  | 10     | 70     | 20     | .06 | 30     | 7      | .2     |
| 146078        | 19     | .10  | 1,500  | .22  | <10    | 70     | 15     | .04 | 30     | 7      | <.1    |
| 146272        | 23     | .19  | 1,000  | .31  | 15     | 70     | 7      | .04 | 30     | 7      | .3     |
| 145468        | 25     | .24  | 1,500  | .30  | <10    | 70     | 15     | .04 | 30     | 7      | .5     |
| 146257        | 23     | .29  | 700    | .22  | <10    | 70     | 15     | .03 | 20     | 7      | .4     |
| 145538        | 20     | .20  | 1,000  | .27  | <10    | 70     | 10     | .03 | 30     | 7      | .4     |
| 146067        | 18     | .17  | 700    | .26  | 10     | <70    | 10     | .04 | 20     | 7      | <.1    |
| 146114        | 21     | .18  | 1,000  | .26  | <10    | 70     | 10     | .04 | 20     | 7      | <.1    |
| 146034        | 19     | .15  | 700    | .19  | <10    | <70    | 10     | .09 | 15     | 7      | <.1    |

Table 3.--Locations and concentrations of frequently detected elements for agricultural soils of Missouri--continued

| Sample        | Si % | Sr ppm | Th ppm | Ti % | U ppm | V ppm | Y ppm | Yb ppm | Zn ppm | Zr ppm |
|---------------|------|--------|--------|------|-------|-------|-------|--------|--------|--------|
| Phelps County |      |        |        |      |       |       |       |        |        |        |
| 146542        | 37   | 70     | --     | .30  | --    | 70    | 30    | 3.0    | 36     | 300    |
| 145965        | 37   | 70     | --     | .30  | --    | 50    | 30    | 3.0    | 25     | 300    |
| 145552        | 35   | 100    | --     | .30  | --    | 70    | 30    | 3.0    | 42     | 300    |
| 145721        | 35   | 70     | --     | .50  | --    | 70    | 30    | 3.0    | 57     | 300    |
| 146134        | 38   | 100    | --     | .30  | --    | 50    | 50    | 5.0    | 35     | 300    |
| 146183        | 35   | 100    | --     | .30  | --    | 70    | 30    | 3.0    | 34     | 300    |
| 146261        | 36   | 100    | 8.00   | .50  | 4.45  | 100   | 50    | 5.0    | 37     | 300    |
| 145517        | 38   | 100    | --     | .30  | --    | 70    | 50    | 3.0    | 28     | 300    |
| 145637        | 35   | 70     | --     | .30  | --    | 50    | 30    | 3.0    | 37     | 300    |
| 145626        | 39   | 50     | 6.40   | .30  | 2.56  | 30    | 20    | 2.0    | 32     | 200    |
| Pike County   |      |        |        |      |       |       |       |        |        |        |
| 145743        | 34   | 150    | --     | .30  | --    | 70    | 30    | 3.0    | 60     | 300    |
| 146167        | 37   | 150    | --     | .30  | --    | 70    | 30    | 3.0    | 37     | 300    |
| 146491        | 35   | 150    | 10.21  | .30  | 3.38  | 70    | 30    | 3.0    | 63     | 200    |
| 146038        | 31   | 150    | --     | .30  | --    | 70    | 30    | 3.0    | 58     | 300    |
| 146457        | 36   | 200    | --     | .30  | --    | 70    | 70    | 5.0    | 49     | 500    |
| 145524        | 34   | 150    | --     | .50  | --    | 100   | 50    | 3.0    | 67     | 300    |
| 146430        | 36   | 150    | --     | .30  | --    | 70    | 30    | 3.0    | 42     | 300    |
| 145546        | 35   | 150    | 8.28   | .30  | 4.05  | 70    | 50    | 3.0    | 42     | 300    |
| 146369        | 36   | 150    | --     | .30  | --    | 70    | 30    | 3.0    | 36     | 300    |
| 145665        | 37   | 150    | --     | .30  | --    | 100   | 50    | 5.0    | 47     | 300    |
| Platte County |      |        |        |      |       |       |       |        |        |        |
| 145940        | 31   | 300    | --     | .50  | --    | 100   | 50    | 5.0    | 64     | 300    |
| 146084        | 32   | 200    | 12.92  | .30  | 3.60  | 70    | 30    | 3.0    | 72     | 200    |
| 145506        | 33   | 150    | --     | .30  | --    | 70    | 50    | 5.0    | 68     | 700    |
| 146575        | 33   | 200    | --     | .30  | --    | 70    | 30    | 3.0    | 74     | 150    |
| 145816        | 35   | 200    | --     | .50  | --    | 70    | 50    | 5.0    | 62     | 500    |
| 145675        | 34   | 150    | --     | .30  | --    | 100   | 30    | 3.0    | 73     | 300    |
| 145655        | 35   | 200    | --     | .30  | --    | 70    | 30    | 3.0    | 60     | 300    |
| 146051        | 32   | 150    | --     | .50  | --    | 70    | 30    | 3.0    | 50     | 300    |
| 145555        | 28   | 150    | --     | .30  | --    | 150   | 30    | 3.0    | 116    | 100    |
| 146217        | 33   | 200    | --     | .30  | 3.91  | 70    | 30    | 3.0    | 74     | 300    |
| Polk County   |      |        |        |      |       |       |       |        |        |        |
| 146275        | 35   | 70     | 8.88   | .30  | 3.94  | 50    | 30    | 3.0    | 26     | 500    |
| 145858        | 37   | 100    | 14.42  | .50  | 4.44  | 70    | 50    | 5.0    | 76     | 300    |
| 146078        | 39   | 50     | --     | .30  | --    | 50    | 30    | 3.0    | 23     | 500    |
| 146272        | 33   | 70     | --     | .50  | --    | 70    | 50    | 5.0    | 48     | 500    |
| 145468        | 34   | 70     | --     | .30  | --    | 70    | 30    | 3.0    | 33     | 300    |
| 146257        | 33   | 70     | --     | .30  | --    | 70    | 30    | 3.0    | 32     | 300    |
| 145538        | 36   | 70     | --     | .30  | --    | 70    | 50    | 5.0    | 40     | 500    |
| 146067        | 38   | 70     | --     | .30  | --    | 70    | 30    | 3.0    | 28     | 500    |
| 146114        | 37   | 70     | --     | .30  | --    | 70    | 30    | 3.0    | 35     | 300    |
| 146034        | 36   | 70     | --     | .30  | --    | 50    | 30    | 3.0    | 25     | 300    |



Table 3.--Locations and concentrations of frequently detected elements for agricultural soils of Missouri--continued

| Sample          | Latitude | Longitude | Al % | As ppm | B ppm | Ba ppm | Be ppm | C %  | C org. % | C crb. % | Ca % |
|-----------------|----------|-----------|------|--------|-------|--------|--------|------|----------|----------|------|
| Pulaski County  |          |           |      |        |       |        |        |      |          |          |      |
| 145825          | 37 51 0  | 92 16 58  | 3    | 5.2    | 50    | 700    | N      | 1.30 | 1.2      | .06      | .4   |
| 145679          | 38 0 0   | 92 22 30  | 3    | 7.5    | 30    | 700    | <1.0   | 1.68 | 1.6      | .04      | .1   |
| 146413          | 37 59 31 | 92 17 31  | 3    | 7.1    | 30    | 700    | N      | 1.66 | 1.4      | .30      | 1.3  |
| 146123          | 37 57 28 | 92 20 31  | 3    | 6.5    | 50    | 500    | N      | 1.47 | 1.4      | .06      | .8   |
| 146079          | 37 48 28 | 92 21 0   | 3    | 9.4    | 50    | 700    | 1.5    | .97  | 1.0      | <.01     | .2   |
| 145859          | 37 49 30 | 92 12 57  | 3    | 5.1    | 30    | 300    | N      | 1.59 | 1.5      | .13      | .6   |
| 145777          | 37 58 44 | 92 4 44   | 4    | 7.3    | 30    | 700    | <1.0   | 1.15 | 1.1      | .01      | .1   |
| 146599          | 37 45 0  | 92 9 0    | 3    | 3.8    | 30    | 700    | N      | 1.10 | 1.0      | .06      | .1   |
| 146410          | 37 47 31 | 92 16 44  | 4    | 7.4    | 30    | 700    | <1.0   | 1.10 | 1.1      | .03      | .1   |
| 146582          | 37 48 28 | 92 2 31   | 3    | 5.0    | 30    | 700    | <1.0   | 2.43 | 2.4      | .03      | .2   |
| Putnam County   |          |           |      |        |       |        |        |      |          |          |      |
| 145842          | 40 34 1  | 93 15 57  | 5    | 11.0   | 30    | 1,000  | 1.0    | 1.70 | 1.7      | .02      | .5   |
| 145673          | 40 34 1  | 93 7 58   | 5    | 13.0   | 30    | 700    | <1.0   | 1.88 | 1.8      | .08      | .5   |
| 145827          | 40 34 1  | 93 1 58   | 5    | 10.0   | 30    | 300    | 1.0    | 1.17 | 1.2      | .01      | .4   |
| 145634          | 40 31 58 | 92 58 1   | 4    | 11.0   | 30    | 700    | 1.0    | 1.30 | 1.3      | .01      | .2   |
| 145979          | 40 30 0  | 92 55 1   | 5    | 13.0   | 30    | 700    | 1.0    | 1.92 | 1.9      | .02      | .5   |
| 146588          | 40 31 1  | 92 46 1   | 5    | 13.0   | 30    | 700    | <1.0   | 1.63 | 1.6      | .03      | .4   |
| 146322          | 40 25 1  | 92 48 0   | 5    | 16.0   | 30    | 1,000  | 1.5    | 1.54 | 1.5      | .03      | .4   |
| 145917          | 40 25 1  | 92 58 1   | 4    | 8.5    | 30    | 700    | 1.0    | 1.41 | 1.4      | .04      | .4   |
| 146045          | 40 28 58 | 93 4 58   | 5    | 19.0   | 30    | 1,000  | <1.0   | 2.74 | 2.7      | .02      | .6   |
| 145542          | 40 28 1  | 93 15 0   | 5    | 8.4    | 30    | 300    | N      | 2.11 | 2.1      | .04      | .4   |
| Ralls County    |          |           |      |        |       |        |        |      |          |          |      |
| 145913          | 39 35 45 | 91 36 28  | 4    | 8.2    | 30    | 500    | N      | 1.30 | 1.2      | .04      | .5   |
| 146176          | 39 30 0  | 91 40 30  | 4    | 13.0   | 30    | 700    | N      | 2.00 | 2.0      | <.01     | .5   |
| 146483          | 39 24 28 | 91 39 0   | 3    | 6.2    | 30    | 700    | N      | .89  | .9       | <.01     | .4   |
| 146077          | 39 37 58 | 91 21 0   | 4    | 9.5    | 30    | 700    | N      | .67  | .7       | <.01     | .4   |
| 145556          | 39 40 30 | 91 31 30  | 5    | 13.0   | 30    | 700    | 1.0    | 1.15 | 1.0      | .10      | .6   |
| 146170          | 39 35 31 | 91 33 28  | 5    | 13.0   | 30    | 700    | <1.0   | 1.51 | 1.5      | .13      | 1.1  |
| 145557          | 39 32 31 | 91 27 28  | 5    | 12.0   | 30    | 700    | 1.0    | 1.34 | 1.3      | .07      | .6   |
| 145674          | 39 32 45 | 91 37 1   | 6    | 9.1    | 30    | 300    | 1.0    | .46  | .4       | .09      | .3   |
| 146418          | 39 22 1  | 91 30 0   | 4    | 7.2    | 30    | 700    | 1.0    | 1.24 | 1.2      | .04      | .4   |
| 145572          | 39 25 1  | 91 28 30  | 5    | 19.0   | 30    | 1,000  | 1.0    | 1.22 | 1.1      | .14      | .4   |
| Randolph County |          |           |      |        |       |        |        |      |          |          |      |
| 145946          | 39 34 58 | 92 39 0   | 6    | 12.0   | 30    | 1,000  | 1.0    | 1.09 | 1.1      | .03      | .5   |
| 146510          | 39 34 1  | 92 28 58  | 4    | 12.0   | 20    | 500    | <1.0   | 1.31 | 1.3      | .02      | .3   |
| 145964          | 39 31 58 | 92 21 0   | 4    | 16.0   | 30    | 700    | 1.0    | 1.51 | 1.5      | .02      | .4   |
| 146104          | 39 31 58 | 92 33 0   | 3    | 8.5    | 30    | 500    | <1.0   | .92  | .8       | .09      | .4   |
| 145821          | 39 27 43 | 92 24 43  | 4    | 13.0   | 30    | 1,000  | N      | 1.45 | 1.4      | .04      | .4   |
| 146008          | 39 25 58 | 92 22 1   | 4    | 15.0   | 30    | 1,000  | 1.0    | 1.55 | 1.6      | <.01     | .3   |
| 145689          | 39 24 0  | 92 40 1   | 4    | 7.4    | 30    | 500    | <1.0   | 1.95 | 1.9      | .05      | .3   |
| 146238          | 39 25 58 | 92 30 0   | 4    | 7.6    | 30    | 500    | <1.0   | 2.20 | 2.2      | <.01     | .4   |
| 145866          | 39 19 58 | 92 31 58  | 4    | 9.2    | 30    | 500    | 1.0    | .80  | .8       | .03      | .3   |
| 146383          | 39 19 58 | 92 22 58  | 4    | 8.4    | 30    | 500    | 1.0    | 1.99 | 2.0      | .02      | .4   |

Table 3.--Locations and concentrations of frequently detected elements for agricultural soils of Missouri--continued

| Sample          | Ce ppm | Co ppm | Cr ppm | Cu ppm | F%   | Fe % | Ga ppm | Hg ppm | I ppm | K % | La ppm |
|-----------------|--------|--------|--------|--------|------|------|--------|--------|-------|-----|--------|
| Pulaski County  |        |        |        |        |      |      |        |        |       |     |        |
| 145825          | <150   | 7      | 50     | 20     | .027 | 1.5  | 10     | .02    | --    | 1.3 | 30     |
| 145679          | 150    | 15     | 70     | 7      | .016 | 1.5  | 7      | .07    | --    | 1.7 | 30     |
| 146413          | <150   | 10     | 70     | 20     | .024 | 1.5  | 10     | .05    | --    | 1.4 | 30     |
| 146123          | <150   | 7      | 30     | 10     | .018 | 1.4  | 7      | .05    | --    | 1.5 | 30     |
| 146079          | 150    | 20     | 70     | 15     | .017 | 1.6  | 10     | .04    | 3.82  | 1.4 | 70     |
| 145859          | <150   | 7      | 30     | 15     | .016 | 1.5  | 7      | .05    | --    | 1.0 | 30     |
| 145777          | <150   | 20     | 70     | 10     | .020 | 2.0  | 15     | .04    | --    | 1.7 | 30     |
| 146599          | <150   | 7      | 70     | 7      | .016 | 1.2  | 7      | .05    | --    | 1.3 | 30     |
| 146410          | <150   | 7      | 50     | 7      | .032 | 1.6  | 10     | .04    | --    | 1.4 | 50     |
| 146582          | 150    | 7      | 30     | 10     | .021 | 1.2  | 7      | .62    | --    | 1.2 | 50     |
| Putnam County   |        |        |        |        |      |      |        |        |       |     |        |
| 145842          | 150    | 7      | 70     | 15     | .022 | 2.2  | 10     | .04    | --    | 1.7 | 50     |
| 145673          | <150   | 15     | 70     | 15     | .038 | 2.9  | 15     | .06    | --    | 1.7 | 30     |
| 145827          | 150    | 15     | 50     | 15     | .028 | 3.2  | 15     | .03    | --    | 1.2 | 30     |
| 145634          | <150   | 15     | 50     | 10     | .024 | 2.4  | 7      | .13    | --    | 1.6 | 30     |
| 145979          | 150    | 15     | 70     | 15     | .033 | 3.0  | 15     | .04    | --    | 1.7 | 70     |
| 146588          | <150   | 10     | 50     | 30     | .031 | 2.5  | 15     | .06    | 2.78  | 1.6 | 30     |
| 146322          | 150    | 15     | 70     | 20     | .028 | 2.8  | 15     | .02    | --    | 1.7 | 30     |
| 145917          | <150   | 15     | 70     | 15     | .029 | 2.0  | 15     | .02    | --    | 1.7 | 30     |
| 146045          | <150   | 10     | 70     | 30     | .037 | 3.5  | 15     | .13    | --    | 1.6 | 50     |
| 145542          | <150   | 7      | 30     | 15     | .070 | 2.2  | 15     | .06    | --    | 1.2 | 30     |
| Ralls County    |        |        |        |        |      |      |        |        |       |     |        |
| 145913          | <150   | 15     | 50     | 10     | .017 | 2.0  | 10     | .05    | --    | 1.3 | 30     |
| 146176          | 150    | 15     | 70     | 15     | .018 | 2.2  | 15     | .06    | --    | 1.2 | 50     |
| 146483          | <150   | 3      | 30     | 7      | .005 | 1.3  | 7      | .03    | --    | 1.3 | 30     |
| 146077          | 150    | 10     | 70     | 15     | .018 | 2.1  | 15     | .08    | --    | 1.3 | 30     |
| 145556          | <150   | 10     | 50     | 15     | .110 | 2.4  | 15     | .12    | --    | 1.5 | 30     |
| 146170          | 150    | 15     | 70     | 30     | .029 | 2.2  | 15     | .09    | --    | 1.7 | 70     |
| 145557          | <150   | 15     | 70     | 15     | .150 | 2.4  | 15     | .03    | 5.20  | 1.5 | 70     |
| 145674          | <150   | 15     | 150    | 15     | .034 | 3.4  | 15     | .07    | --    | 1.2 | 30     |
| 146418          | <150   | 7      | 50     | 10     | .020 | 1.5  | 7      | .04    | --    | 1.3 | 30     |
| 145572          | <150   | 15     | 70     | 15     | .092 | 3.0  | 15     | .05    | --    | 1.4 | 50     |
| Randolph County |        |        |        |        |      |      |        |        |       |     |        |
| 145946          | 150    | 15     | 70     | 20     | .036 | 3.1  | 15     | .02    | --    | 1.9 | 70     |
| 146510          | 150    | 10     | 50     | 15     | .037 | 2.3  | 15     | .04    | --    | 1.2 | 30     |
| 145964          | <150   | 10     | 70     | 15     | .020 | 2.6  | 15     | .07    | --    | 1.4 | 50     |
| 146104          | <150   | 7      | 30     | 15     | .009 | 1.5  | 10     | .03    | --    | .9  | 30     |
| 145821          | 150    | 15     | 70     | 15     | .021 | 2.6  | 15     | .03    | --    | 1.5 | 30     |
| 146008          | 150    | 10     | 70     | 10     | .021 | 2.5  | 15     | .06    | 2.53  | 1.5 | 50     |
| 145689          | <150   | 7      | 70     | 10     | .011 | 2.2  | 15     | .05    | --    | 1.2 | 30     |
| 146238          | <150   | 10     | 50     | 15     | .024 | 1.7  | 10     | .06    | --    | 1.2 | 30     |
| 145866          | <150   | 10     | 70     | 10     | .025 | 2.4  | 15     | .04    | --    | 1.2 | 30     |
| 146383          | <150   | 7      | 70     | 15     | .008 | 1.8  | 15     | .04    | --    | 1.6 | 30     |

Table 3.--Locations and concentrations of frequently detected elements for agricultural soils of Missouri--continued

| Sample          | Li ppm | Mg % | Mn ppm | Na % | Nb ppm | Nd ppm | Ni ppm | P %  | Pb ppm | Sc ppm | Se ppm |
|-----------------|--------|------|--------|------|--------|--------|--------|------|--------|--------|--------|
| Pulaski County  |        |      |        |      |        |        |        |      |        |        |        |
| 145825          | 18     | .17  | 1,500  | .33  | <10    | <70    | 15     | .13  | 20     | 7      | .1     |
| 145679          | 22     | .24  | 500    | .53  | <10    | <70    | 15     | .05  | 20     | 7      | .5     |
| 146413          | 22     | .31  | 1,000  | .39  | 10     | <70    | 7      | .17  | 20     | 7      | .4     |
| 146123          | 22     | .21  | 500    | .38  | <10    | 70     | 7      | .09  | 20     | 7      | .2     |
| 146079          | 22     | .16  | 1,500  | .42  | 10     | 70     | 15     | .13  | 30     | 7      | <.1    |
| 145859          | 19     | .32  | 700    | .29  | <10    | <70    | 10     | .06  | 50     | 7      | .3     |
| 145777          | 26     | .27  | 1,000  | .45  | 10     | 70     | 15     | .05  | 30     | 10     | 1.0    |
| 146599          | 20     | .14  | 500    | .42  | 10     | <70    | 7      | .02  | 15     | 5      | .1     |
| 146410          | 25     | .22  | 700    | .42  | <10    | 70     | 7      | .03  | 15     | 7      | .3     |
| 146582          | 20     | .16  | 1,500  | .36  | <10    | 70     | 10     | .04  | 15     | 5      | .5     |
| Putnam County   |        |      |        |      |        |        |        |      |        |        |        |
| 145842          | 25     | .31  | 500    | .84  | 10     | 70     | 15     | .06  | 20     | 10     | .6     |
| 145673          | 28     | .50  | 1,500  | .71  | <10    | 70     | 30     | .07  | 30     | 10     | 1.0    |
| 145827          | 32     | .34  | 300    | .49  | <10    | <70    | 30     | .03  | 20     | 15     | <.1    |
| 145634          | 24     | .33  | 1,000  | .68  | <10    | <70    | 7      | .07  | 20     | 7      | .5     |
| 145979          | 24     | .38  | 1,500  | .68  | <10    | 70     | 15     | .09  | 50     | 10     | .2     |
| 146588          | 30     | .44  | 1,000  | .67  | <10    | <70    | 20     | .04  | 15     | 10     | .7     |
| 146322          | 26     | .43  | 15     | .70  | 10     | 70     | 20     | .09  | 30     | 10     | .7     |
| 145917          | 26     | .36  | 700    | .70  | 10     | 70     | 15     | .09  | 30     | 7      | <.1    |
| 146045          | 28     | .48  | 700    | .64  | <10    | 70     | 20     | .13  | 70     | 10     | .7     |
| 145542          | 26     | .34  | 300    | .49  | <10    | <70    | 15     | .07  | 15     | 7      | .3     |
| Ralls County    |        |      |        |      |        |        |        |      |        |        |        |
| 145913          | 21     | .26  | 1,000  | .59  | 10     | <70    | 10     | .09  | 15     | 7      | <.1    |
| 146176          | 23     | .27  | 1,500  | .73  | 10     | 70     | 15     | .04  | 30     | 7      | .3     |
| 146483          | 16     | .14  | 700    | .58  | 10     | <70    | 15     | .04  | 15     | 7      | .4     |
| 146077          | 22     | .24  | 1,000  | .56  | 10     | 70     | 15     | .04  | 20     | 7      | .3     |
| 145556          | 22     | .31  | 1,000  | .85  | 10     | <70    | 15     | .04  | 20     | 7      | .9     |
| 146170          | 23     | .42  | 1,000  | .61  | <10    | 70     | 30     | .13  | 30     | 10     | <.1    |
| 145557          | 19     | .28  | 1,000  | .82  | <10    | 70     | 15     | .06  | 20     | 10     | .8     |
| 145674          | 32     | .47  | 300    | .43  | <10    | <70    | 30     | .03  | 15     | 15     | .4     |
| 146418          | 20     | .22  | 500    | .75  | <10    | <70    | 10     | .04  | 20     | 7      | .5     |
| 145572          | 22     | .36  | 1,500  | .70  | 10     | 70     | 15     | .07  | 15     | 7      | .7     |
| Randolph County |        |      |        |      |        |        |        |      |        |        |        |
| 145946          | 26     | .46  | 700    | .69  | 10     | 70     | 20     | .09  | 20     | 15     | .3     |
| 146510          | 25     | .28  | 700    | .51  | <10    | 70     | 15     | .04  | 15     | 7      | .8     |
| 145964          | 22     | .27  | 1,500  | .75  | 10     | 70     | 15     | .09  | 30     | 7      | .1     |
| 146104          | 16     | .17  | 700    | .37  | <10    | <70    | 5      | .04  | 20     | 7      | <.1    |
| 145821          | 21     | .21  | 2,000  | .77  | <10    | <70    | 15     | .04  | 30     | 7      | .7     |
| 146008          | 20     | .24  | 1,500  | .77  | <10    | 70     | 15     | .09  | 30     | 7      | .1     |
| 145689          | 25     | .34  | 300    | .50  | <10    | <70    | 15     | .08  | 15     | 7      | .3     |
| 146238          | 19     | .23  | 1,000  | .63  | <10    | 70     | 10     | .04  | 15     | 7      | .7     |
| 145866          | 23     | .28  | 300    | .55  | 15     | 70     | 15     | <.02 | 20     | 7      | .3     |
| 146383          | 25     | .32  | 300    | .62  | <10    | 70     | 7      | .09  | 15     | 7      | 1.1    |

Table 3.--Locations and concentrations of frequently detected elements for agricultural soils of Missouri--continued

| Sample          | Si % | Sr ppm | Th ppm | Ti % | U ppm | V ppm | Y ppm | Yb ppm | Zn ppm | Zr ppm |
|-----------------|------|--------|--------|------|-------|-------|-------|--------|--------|--------|
| Pulaski County  |      |        |        |      |       |       |       |        |        |        |
| 145825          | 39   | 70     | --     | .30  | --    | 50    | 30    | 3.0    | 32     | 500    |
| 145679          | 37   | 70     | 5.99   | .30  | 4.23  | 70    | 30    | 3.0    | 38     | 300    |
| 146413          | 35   | 200    | --     | .30  | --    | 70    | 30    | 3.0    | 60     | 300    |
| 146123          | 37   | 70     | --     | .30  | --    | 50    | 30    | 3.0    | 72     | 200    |
| 146079          | 38   | 100    | --     | .50  | --    | 70    | 50    | 5.0    | 46     | 500    |
| 145859          | 39   | 70     | --     | .30  | --    | 50    | 20    | 2.0    | 50     | 200    |
| 145777          | 37   | 100    | --     | .50  | --    | 70    | 30    | 3.0    | 31     | 300    |
| 146599          | 38   | 70     | --     | .30  | --    | 50    | 30    | 3.0    | 28     | 300    |
| 146410          | 36   | 70     | 9.93   | .30  | 3.86  | 70    | 30    | 3.0    | 35     | 200    |
| 146582          | 38   | 70     | --     | .30  | --    | 50    | 30    | 3.0    | 41     | 300    |
| Putnam County   |      |        |        |      |       |       |       |        |        |        |
| 145842          | 36   | 150    | --     | .30  | --    | 70    | 30    | 3.0    | 52     | 300    |
| 145673          | 32   | 150    | --     | .30  | --    | 100   | 30    | 3.0    | 70     | 200    |
| 145827          | 35   | 100    | --     | .30  | --    | 70    | 30    | 3.0    | 46     | 200    |
| 145634          | 34   | 150    | 11.38  | .30  | 3.73  | 70    | 30    | 3.0    | 51     | 300    |
| 145979          | 31   | 100    | --     | .30  | --    | 100   | 50    | 5.0    | 61     | 500    |
| 146588          | 32   | 150    | 13.03  | .30  | 4.07  | 70    | 30    | 3.0    | 58     | 300    |
| 146322          | 33   | 200    | --     | .50  | --    | 150   | 30    | 3.0    | 68     | 200    |
| 145917          | 33   | 150    | --     | .30  | --    | 100   | 30    | 3.0    | 58     | 300    |
| 146045          | 29   | 150    | --     | .30  | --    | 100   | 30    | 3.0    | 320    | 150    |
| 145542          | 33   | 70     | --     | .30  | --    | 70    | 20    | 3.0    | 75     | 300    |
| Ralls County    |      |        |        |      |       |       |       |        |        |        |
| 145913          | 32   | 100    | 6.63   | .30  | 4.15  | 70    | 30    | 3.0    | 42     | 300    |
| 146176          | 35   | 150    | --     | .50  | --    | 70    | 30    | 3.0    | 47     | 300    |
| 146483          | 38   | 100    | --     | .30  | --    | 50    | 20    | 3.0    | 29     | 300    |
| 146077          | 36   | 150    | --     | .50  | --    | 70    | 30    | 3.0    | 36     | 700    |
| 145556          | 33   | 150    | --     | .50  | --    | 70    | 30    | 3.0    | 44     | 300    |
| 146170          | 33   | 150    | --     | .30  | 5.48  | 70    | 30    | 3.0    | 74     | 500    |
| 145557          | 34   | 150    | --     | .50  | --    | 70    | 30    | 3.0    | 38     | 500    |
| 145674          | 33   | 100    | --     | .30  | --    | 100   | 30    | 3.0    | 57     | 150    |
| 146418          | 35   | 150    | --     | .30  | --    | 70    | 30    | 3.0    | 40     | 200    |
| 145572          | 33   | 150    | --     | .50  | --    | 70    | 30    | 3.0    | 49     | 300    |
| Randolph County |      |        |        |      |       |       |       |        |        |        |
| 145946          | 31   | 200    | --     | .30  | 7.07  | 150   | 50    | 5.0    | 68     | 300    |
| 146510          | 34   | 100    | --     | .30  | --    | 70    | 30    | 3.0    | 47     | 300    |
| 145964          | 33   | 150    | --     | .50  | --    | 100   | 30    | 3.0    | 48     | 700    |
| 146104          | 38   | 70     | --     | .30  | --    | 50    | 20    | 2.0    | 26     | 300    |
| 145821          | 36   | 150    | 7.90   | .50  | 4.34  | 70    | 30    | 3.0    | 57     | 300    |
| 146008          | 33   | 150    | --     | .30  | --    | 70    | 30    | 3.0    | 46     | 300    |
| 145689          | 35   | 100    | --     | .30  | --    | 70    | 30    | 3.0    | 52     | 500    |
| 146238          | 35   | 150    | --     | .30  | --    | 70    | 30    | 3.0    | 41     | 300    |
| 145866          | 37   | 150    | --     | .30  | --    | 70    | 30    | 3.0    | 40     | 300    |
| 146383          | 36   | 100    | --     | .30  | --    | 70    | 20    | 3.0    | 57     | 300    |

Table 3.--Locations and concentrations of frequently detected elements for agricultural soils of Missouri--continued

| Sample            | Latitude | Longitude | Al % | As ppm | B ppm | Ba ppm | Be ppm | C %  | C org. % | C crb. % | Ca % |
|-------------------|----------|-----------|------|--------|-------|--------|--------|------|----------|----------|------|
| Ray County        |          |           |      |        |       |        |        |      |          |          |      |
| 146129            | 39 31 1  | 94 4 1    | 5    | 9.5    | 30    | 700    | <1.0   | 1.74 | 1.7      | <.01     | .4   |
| 145834            | 39 28 30 | 94 1 1    | 4    | 8.7    | 30    | 300    | 1.5    | 1.49 | 1.5      | .01      | .4   |
| 146583            | 39 18 0  | 93 50 31  | 6    | 11.0   | 30    | 700    | 1.0    | 3.32 | 3.3      | .05      | .9   |
| 146402            | 39 16 58 | 93 53 31  | 5    | 8.8    | 30    | 700    | <1.0   | 1.82 | 1.8      | .02      | .6   |
| 146371            | 39 15 28 | 94 2 31   | 5    | 10.0   | 30    | 1,500  | 1.5    | 1.51 | 1.4      | .06      | .6   |
| 146480            | 39 10 58 | 94 6 28   | 5    | 6.4    | <20   | 700    | N      | .92  | .9       | .25      | 1.3  |
| 145706            | 39 15 28 | 93 46 58  | 5    | 7.3    | 30    | 700    | <1.0   | 1.74 | 1.7      | .05      | .8   |
| 145587            | 39 13 58 | 94 7 58   | 5    | 13.0   | 30    | 700    | 1.5    | 1.40 | 1.3      | .08      | .7   |
| 146212            | 39 12 28 | 94 0 0    | 5    | 11.0   | 30    | 700    | <1.0   | 1.14 | 1.1      | <.01     | .4   |
| 146448            | 39 12 28 | 93 54 0   | 5    | 11.0   | 30    | 700    | <1.0   | 1.12 | 1.1      | .02      | .9   |
| Reynolds County   |          |           |      |        |       |        |        |      |          |          |      |
| 145820            | 37 34 1  | 91 13 58  | 3    | 8.8    | 50    | 500    | N      | 2.05 | 2.0      | <.01     | .1   |
| 146496            | 37 34 58 | 90 54 0   | 3    | 12.0   | 30    | 300    | <1.0   | 1.05 | 1.0      | .02      | .2   |
| 146569            | 37 28 1  | 91 9 0    | 1    | 3.8    | 20    | 150    | <1.0   | 2.97 | 2.9      | .04      | .1   |
| 146241            | 37 28 1  | 91 1 1    | 2    | 4.4    | 30    | 150    | N      | 1.74 | 1.7      | <.01     | .1   |
| 146415            | 37 27 0  | 90 54 0   | 3    | 10.0   | 20    | 500    | 2.0    | 1.17 | 1.1      | .05      | .1   |
| 146196            | 37 21 0  | 91 7 1    | 4    | 6.6    | 30    | 500    | 1.0    | 1.20 | 1.2      | <.01     | .1   |
| 145963            | 37 16 1  | 90 57 0   | 3    | 6.2    | 30    | 700    | 1.5    | 1.11 | 1.1      | <.01     | .1   |
| 146500            | 37 19 58 | 90 51 0   | 2    | 7.8    | 20    | 300    | <1.0   | .79  | .7       | .05      | .1   |
| 145920            | 37 9 0   | 90 57 0   | 3    | 6.8    | 30    | 700    | 1.0    | 1.26 | 1.3      | <.01     | .3   |
| 146202            | 37 12 0  | 90 49 58  | 3    | 18.0   | 30    | 700    | 1.5    | 1.24 | 1.2      | .01      | .1   |
| Ripley County     |          |           |      |        |       |        |        |      |          |          |      |
| 145508            | 36 34 1  | 91 4 58   | 4    | 19.0   | 30    | 500    | 1.0    | 1.13 | 1.1      | .07      | .2   |
| 146537            | 36 31 30 | 90 49 1   | 2    | 3.2    | 20    | 150    | N      | 1.03 | 1.0      | .02      | .1   |
| 145801            | 36 36 28 | 90 43 1   | 3    | 8.4    | 30    | 500    | 1.0    | .71  | .7       | <.01     | .1   |
| 145748            | 36 46 58 | 90 52 1   | 3    | 7.0    | 30    | 500    | 1.0    | .88  | .9       | <.01     | <.1  |
| 145597            | 36 40 30 | 90 37 30  | 3    | 7.8    | 30    | 700    | <1.0   | 1.49 | 1.0      | .47      | 1.6  |
| 146030            | 36 36 0  | 90 53 31  | 3    | 8.0    | 30    | 500    | 1.0    | .77  | .8       | <.01     | .1   |
| 146437            | 36 39 43 | 91 0 28   | 2    | 7.4    | 30    | 300    | N      | 1.13 | 1.1      | .04      | .2   |
| 145760            | 36 33 14 | 90 37 1   | 3    | 3.7    | <20   | 700    | N      | .48  | .5       | <.01     | .4   |
| 146179            | 36 47 31 | 90 41 31  | 4    | 13.0   | 50    | 500    | <1.0   | 1.08 | 1.1      | .02      | .1   |
| 145449            | 36 45 14 | 90 57 0   | 3    | 6.8    | 30    | 300    | <1.0   | .89  | .8       | .13      | .1   |
| St Charles County |          |           |      |        |       |        |        |      |          |          |      |
| 146570            | 38 54 0  | 90 16 58  | 6    | 13.0   | 30    | 700    | 1.0    | 1.56 | 1.5      | .03      | 1.1  |
| 145464            | 38 57 0  | 90 22 58  | 7    | 10.0   | 30    | 700    | 1.5    | 2.35 | 2.2      | .09      | .7   |
| 145535            | 38 52 58 | 90 22 58  | 6    | 6.8    | 50    | 700    | 1.0    | 1.94 | 1.9      | .04      | .8   |
| 146213            | 38 49 58 | 90 22 58  | 6    | 12.0   | 30    | 700    | 1.0    | 1.57 | 1.5      | .07      | 1.0  |
| 145874            | 38 52 1  | 90 40 58  | 4    | 5.4    | 30    | 700    | 1.5    | 1.19 | 1.2      | <.01     | .4   |
| 145805            | 38 46 58 | 90 39 0   | 4    | 6.9    | 30    | 700    | <1.0   | 1.26 | 1.2      | .01      | .6   |
| 146101            | 38 43 1  | 90 34 1   | 4    | 6.1    | 30    | 700    | N      | .90  | .9       | .01      | .5   |
| 145484            | 38 51 0  | 90 49 58  | 5    | 14.0   | 30    | 500    | 1.0    | 1.37 | 1.4      | .10      | .4   |
| 145786            | 38 45 0  | 90 51 0   | 3    | 7.1    | 30    | 500    | N      | .96  | 1.0      | <.01     | .2   |
| 146549            | 38 40 1  | 90 51 0   | 4    | 7.6    | 50    | 700    | <1.0   | .86  | .8       | .03      | .4   |



Table 3.--Locations and concentrations of frequently detected elements for agricultural soils of Missouri--continued

| Sample            | Ce ppm | Co ppm | Cr ppm | Cu ppm | F%   | Fe % | Ga ppm | Hg ppm | I ppm | K % | La ppm |
|-------------------|--------|--------|--------|--------|------|------|--------|--------|-------|-----|--------|
| Ray County        |        |        |        |        |      |      |        |        |       |     |        |
| 146129            | 150    | 7      | 70     | 15     | .027 | 2.2  | 15     | .04    | --    | 1.3 | 30     |
| 145834            | <150   | 10     | 30     | 10     | .015 | 1.9  | 10     | .02    | --    | 1.2 | 30     |
| 146583            | <150   | 10     | 70     | 30     | .051 | 3.1  | 20     | .08    | --    | 2.1 | 30     |
| 146402            | <150   | 7      | 50     | 15     | .048 | 2.4  | 15     | .03    | --    | 1.9 | 50     |
| 146371            | 150    | 15     | 70     | 20     | .038 | 2.6  | 20     | .04    | --    | 1.2 | 70     |
| 146480            | <150   | 5      | 30     | 7      | .021 | 1.5  | 10     | <.01   | --    | 1.9 | 30     |
| 145706            | <150   | 7      | 50     | 10     | .096 | 1.9  | 15     | .05    | --    | 2.0 | 30     |
| 145587            | <150   | 7      | 50     | 30     | .120 | 2.4  | 15     | .06    | --    | 2.2 | 30     |
| 146212            | 150    | 7      | 70     | 15     | .027 | 1.8  | 15     | .05    | 1.92  | 1.8 | 30     |
| 146448            | <150   | 5      | 70     | 15     | .030 | 2.0  | 15     | .11    | --    | 2.0 | 30     |
| Reynolds County   |        |        |        |        |      |      |        |        |       |     |        |
| 145820            | <150   | 7      | 50     | 50     | .015 | 1.9  | 7      | .04    | --    | 1.2 | 30     |
| 146496            | <150   | 20     | 30     | 20     | .033 | 1.5  | 7      | .02    | --    | 1.1 | 30     |
| 146569            | <150   | <3     | 70     | 7      | .002 | .9   | <5     | .43    | --    | .3  | 30     |
| 146241            | <150   | 10     | 30     | 15     | .014 | 1.0  | 7      | .06    | --    | .5  | 30     |
| 146415            | 150    | 15     | 30     | 30     | .020 | 1.7  | 10     | .04    | --    | 1.1 | 70     |
| 146196            | 150    | 15     | 50     | 20     | .020 | 1.8  | 15     | .02    | --    | .8  | 70     |
| 145963            | <150   | 15     | 50     | 100    | .013 | 1.6  | 7      | .04    | --    | .9  | 70     |
| 146500            | <150   | 15     | 30     | 7      | .02  | 1.5  | 7      | .02    | 6.07  | .8  | 30     |
| 145920            | 150    | 15     | 70     | 15     | .01  | 1.6  | 10     | .04    | --    | 1.2 | 70     |
| 146202            | 150    | 10     | 30     | 10     | .012 | 1.5  | 7      | .03    | --    | 1.2 | 70     |
| Ripley County     |        |        |        |        |      |      |        |        |       |     |        |
| 145508            | 150    | 30     | 70     | 10     | .130 | 3.0  | 10     | .06    | --    | 1.2 | 30     |
| 146537            | N      | 5      | 20     | 7      | .005 | .7   | <5     | .01    | 3.38  | .4  | 30     |
| 145801            | <150   | 15     | 70     | 7      | .011 | 1.7  | 7      | .03    | --    | 1.0 | 30     |
| 145748            | 150    | 15     | 30     | 15     | .011 | 1.9  | <5     | .04    | --    | 1.0 | 30     |
| 145597            | 150    | 15     | 70     | 15     | .011 | 1.7  | 7      | .03    | --    | 1.1 | 30     |
| 146030            | 150    | 20     | 70     | 10     | .016 | 1.9  | 10     | .03    | --    | 1.2 | 50     |
| 146437            | <150   | 7      | 50     | 20     | .014 | 1.3  | 5      | .01    | --    | .9  | 30     |
| 145760            | <150   | 3      | 150    | 5      | .006 | .7   | <5     | .02    | --    | 1.4 | 30     |
| 146179            | 150    | 15     | 70     | 10     | .019 | 2.6  | 15     | .05    | --    | .9  | 30     |
| 145449            | <150   | 10     | 30     | 10     | .026 | 1.3  | 5      | .07    | --    | 1.1 | 30     |
| St Charles County |        |        |        |        |      |      |        |        |       |     |        |
| 146570            | <150   | 7      | 70     | 20     | .050 | 3.1  | 15     | .05    | --    | 2.1 | 30     |
| 145464            | 150    | 10     | 70     | 30     | .040 | 3.4  | 20     | .06    | --    | 1.7 | 50     |
| 145535            | N      | 7      | 50     | 15     | .076 | 2.0  | 15     | .04    | --    | 2.2 | 30     |
| 146213            | 150    | 10     | 70     | 30     | .057 | 3.1  | 20     | .04    | --    | 2.1 | 70     |
| 145874            | <150   | 7      | 50     | 15     | .018 | 1.5  | 10     | .02    | --    | 1.6 | 50     |
| 145805            | <150   | 7      | 70     | 15     | .014 | 2.0  | 15     | .07    | --    | 1.8 | 30     |
| 146101            | <150   | 7      | 30     | 10     | .014 | 1.6  | 10     | .04    | 2.42  | 1.8 | 30     |
| 145484            | <150   | 10     | 70     | 15     | .028 | 2.8  | 15     | .05    | --    | 1.5 | 50     |
| 145786            | <150   | 15     | 30     | 7      | .013 | 1.4  | 10     | .04    | --    | 1.1 | 30     |
| 146549            | <150   | 7      | 50     | 7      | .025 | 1.6  | 7      | .02    | --    | 1.4 | 30     |

Table 3.--Locations and concentrations of frequently detected elements for agricultural soils of Missouri--continued

| Sample            | Li ppm | Mg % | Mn ppm | Na % | Nb ppm | Nd ppm | Ni ppm | P %  | Pb ppm | Sc ppm | Se ppm |
|-------------------|--------|------|--------|------|--------|--------|--------|------|--------|--------|--------|
| Ray County        |        |      |        |      |        |        |        |      |        |        |        |
| 146129            | 25     | .34  | 500    | .68  | <10    | 70     | 20     | .09  | 20     | 7      | .3     |
| 145834            | 19     | .21  | 300    | .55  | <10    | <70    | 15     | .06  | 15     | 7      | .2     |
| 146583            | 35     | .65  | 700    | .49  | <10    | <70    | 30     | .09  | 15     | 15     | .9     |
| 146402            | 31     | .45  | 700    | .70  | <10    | 70     | 15     | .09  | 15     | 10     | .7     |
| 146371            | 27     | .47  | 700    | .74  | <10    | 70     | 30     | .04  | 20     | 10     | .4     |
| 146480            | 18     | .51  | 200    | 1.06 | <10    | <70    | 15     | .09  | 15     | 5      | .2     |
| 145706            | 21     | .45  | 300    | .93  | <10    | <70    | 20     | .11  | 15     | 7      | .3     |
| 145587            | 25     | .57  | 500    | 1.05 | <10    | <70    | 30     | .12  | 20     | 10     | .6     |
| 146212            | 20     | .32  | 500    | .99  | <10    | 70     | 15     | .13  | 15     | 7      | <.1    |
| 146448            | 24     | .48  | 300    | 1.00 | <10    | <70    | 30     | .09  | 15     | 7      | .5     |
| Reynolds County   |        |      |        |      |        |        |        |      |        |        |        |
| 145820            | 21     | .19  | 700    | .31  | 10     | <70    | 7      | .02  | 30     | 7      | .2     |
| 146496            | 16     | .16  | 1,500  | .16  | <10    | <70    | 15     | .09  | 20     | 7      | .5     |
| 146569            | 7      | .05  | 200    | .08  | <10    | N      | 5      | .04  | 15     | N      | .3     |
| 146241            | 15     | .14  | 700    | .15  | <10    | <70    | 15     | .04  | 20     | 5      | .2     |
| 146415            | 19     | .15  | 2,000  | .19  | <10    | 70     | 20     | .13  | 30     | 7      | .3     |
| 146196            | 24     | .18  | 1,500  | .17  | 10     | 70     | 20     | .09  | 15     | 10     | <.1    |
| 145963            | 18     | .13  | 3,000  | .19  | 10     | 70     | 20     | .09  | 30     | 7      | <.1    |
| 146500            | 17     | .14  | 1,500  | .19  | <10    | <70    | 7      | .04  | 20     | 5      | .5     |
| 145920            | 26     | .33  | 1,500  | .56  | 10     | 70     | 15     | .09  | 20     | 7      | <.1    |
| 146202            | 20     | .12  | 2,000  | .25  | 10     | 70     | 20     | .04  | 15     | 7      | .2     |
| Ripley County     |        |      |        |      |        |        |        |      |        |        |        |
| 145508            | 21     | .16  | 2,000  | .22  | 10     | 70     | 15     | .03  | 50     | 7      | .6     |
| 146537            | 10     | .07  | 500    | .08  | <10    | N      | 7      | .09  | 15     | <5     | .1     |
| 145801            | 19     | .13  | 1,500  | .26  | <10    | <70    | 10     | .02  | 15     | 7      | .2     |
| 145748            | 20     | .14  | 1,500  | .20  | <10    | 70     | 15     | .04  | 15     | 7      | .6     |
| 145597            | 17     | .13  | 1,500  | .28  | 10     | 70     | 15     | .07  | 70     | 7      | .6     |
| 146030            | 21     | .17  | 1,000  | .20  | 15     | 70     | 15     | .04  | 20     | 7      | <.1    |
| 146437            | 16     | .10  | 500    | .16  | <10    | <70    | 7      | .04  | 15     | <5     | .2     |
| 145760            | 12     | .09  | 300    | .67  | <10    | <70    | 7      | .09  | 15     | <5     | <.1    |
| 146179            | 27     | .22  | 1,000  | .23  | 10     | 70     | 15     | .04  | 30     | 7      | .4     |
| 145449            | 17     | .13  | 1,500  | .20  | <10    | <70    | 10     | .06  | 15     | 7      | .3     |
| St Charles County |        |      |        |      |        |        |        |      |        |        |        |
| 146570            | 35     | .83  | 500    | .66  | <10    | 70     | 30     | .09  | 15     | 10     | .3     |
| 145464            | 33     | .57  | 1,500  | .48  | <10    | 70     | 30     | .09  | 30     | 10     | 1.2    |
| 145535            | 21     | .49  | 700    | .94  | 10     | <70    | 20     | .08  | 30     | 7      | .5     |
| 146213            | 40     | .84  | 700    | .64  | <10    | 70     | 30     | .09  | 30     | 15     | .5     |
| 145874            | 21     | .22  | 500    | .72  | 15     | 70     | 15     | .05  | 30     | 7      | .2     |
| 145805            | 15     | .28  | 700    | .96  | <10    | 70     | 15     | .11  | 30     | 10     | .1     |
| 146101            | 16     | .28  | 1,000  | .92  | <10    | <70    | 15     | .04  | 20     | 7      | <.1    |
| 145484            | 24     | .36  | 700    | .63  | <10    | 70     | 15     | .08  | 30     | 10     | .6     |
| 145786            | 19     | .17  | 700    | .44  | 10     | <70    | 15     | <.02 | 20     | 7      | .6     |
| 146549            | 17     | .21  | 500    | .73  | <10    | <70    | 15     | .04  | 15     | 7      | .2     |

Table 3.--Locations and concentrations of frequently detected elements for agricultural soils of Missouri--continued

| Sample            | Si % | Sr ppm | Th ppm | Ti % | U ppm | V ppm | Y ppm | Yb ppm | Zn ppm | Zr ppm |
|-------------------|------|--------|--------|------|-------|-------|-------|--------|--------|--------|
| Ray County        |      |        |        |      |       |       |       |        |        |        |
| 146129            | 37   | 150    | --     | .30  | --    | 70    | 30    | 3.0    | 50     | 200    |
| 145834            | 38   | 100    | 7.23   | .30  | 2.78  | 70    | 30    | 3.0    | 38     | 500    |
| 146583            | 28   | 150    | --     | .30  | --    | 150   | 30    | 3.0    | 103    | 150    |
| 146402            | 33   | 150    | --     | .30  | --    | 70    | 30    | 3.0    | 77     | 100    |
| 146371            | 33   | 300    | --     | .30  | --    | 150   | 30    | 3.0    | 66     | 500    |
| 146480            | 36   | 200    | --     | .20  | --    | 50    | 20    | 2.0    | 46     | 300    |
| 145706            | 34   | 300    | --     | .30  | --    | 70    | 30    | 3.0    | 71     | 200    |
| 145587            | 34   | 150    | 12.31  | .30  | 3.18  | 70    | 30    | 3.0    | 81     | 150    |
| 146212            | 35   | 200    | --     | .30  | --    | 70    | 30    | 3.0    | 74     | 300    |
| 146448            | 34   | 200    | --     | .20  | --    | 70    | 30    | 3.0    | 68     | 300    |
| Reynolds County   |      |        |        |      |       |       |       |        |        |        |
| 145820            | 38   | 70     | --     | .50  | --    | 50    | 30    | 3.0    | 39     | 500    |
| 146496            | 39   | 50     | --     | .20  | --    | 30    | 30    | 3.0    | 72     | 150    |
| 146569            | 38   | 30     | --     | .15  | --    | 15    | 10    | 1.0    | 32     | 150    |
| 146241            | 41   | 30     | --     | .20  | 2.78  | 30    | 20    | 3.0    | 41     | 150    |
| 146415            | 38   | 50     | 6.53   | .30  | 3.56  | 30    | 70    | 3.0    | 66     | 150    |
| 146196            | 37   | 70     | --     | .30  | --    | 70    | 70    | 5.0    | 47     | 300    |
| 145963            | 36   | 70     | --     | .50  | --    | 50    | 70    | 7.0    | 56     | 500    |
| 146500            | 39   | 50     | --     | .20  | --    | 30    | 30    | 3.0    | 30     | 150    |
| 145920            | 34   | 70     | --     | .30  | --    | 70    | 50    | 5.0    | 55     | 300    |
| 146202            | 38   | 70     | --     | .50  | --    | 70    | 70    | 5.0    | 34     | 300    |
| Ripley County     |      |        |        |      |       |       |       |        |        |        |
| 145508            | 35   | 70     | --     | .50  | --    | 70    | 30    | 3.0    | 33     | 700    |
| 146537            | 40   | 20     | --     | .15  | --    | 15    | 15    | 1.5    | 21     | 150    |
| 145801            | 39   | 70     | --     | .30  | --    | 70    | 30    | 3.0    | 30     | 500    |
| 145748            | 40   | 50     | --     | .30  | --    | 50    | 50    | 5.0    | 46     | 300    |
| 145597            | 37   | 150    | --     | .50  | --    | 50    | 30    | 3.0    | 43     | 500    |
| 146030            | 35   | 70     | --     | .50  | --    | 70    | 50    | 5.0    | 31     | 500    |
| 146437            | 36   | 70     | --     | .30  | --    | 30    | 30    | 3.0    | 28     | 500    |
| 145760            | 41   | 70     | 8.76   | .20  | 1.19  | 20    | 15    | 1.5    | 19     | 200    |
| 146179            | 37   | 70     | --     | .30  | 5.40  | 70    | 30    | 3.0    | 41     | 300    |
| 145449            | 38   | 50     | --     | .50  | --    | 30    | 30    | 3.0    | 35     | 500    |
| St Charles County |      |        |        |      |       |       |       |        |        |        |
| 146570            | 30   | 200    | --     | .30  | --    | 100   | 30    | 3.0    | 112    | 150    |
| 145464            | 30   | 150    | --     | .30  | --    | 150   | 30    | 3.0    | 100    | 150    |
| 145535            | 33   | 150    | 10.33  | .30  | 3.03  | 70    | 30    | 3.0    | 166    | 200    |
| 146213            | 30   | 300    | --     | .30  | --    | 150   | 30    | 3.0    | 117    | 150    |
| 145874            | 37   | 150    | --     | .50  | --    | 70    | 30    | 3.0    | 47     | 300    |
| 145805            | 36   | 200    | --     | .50  | --    | 70    | 30    | 3.0    | 61     | 300    |
| 146101            | 36   | 150    | --     | .30  | --    | 70    | 30    | 3.0    | 49     | 300    |
| 145484            | 33   | 150    | --     | .30  | --    | 100   | 30    | 3.0    | 63     | 300    |
| 145786            | 39   | 70     | --     | .50  | --    | 50    | 30    | 3.0    | 34     | 300    |
| 146549            | 36   | 150    | 7.24   | .30  | 4.08  | 70    | 30    | 3.0    | 46     | 500    |

Table 3.--Locations and concentrations of frequently detected elements for agricultural soils of Missouri--continued

| Sample               | Latitude | Longitude | Al % | As ppm | B ppm | Ba ppm | Be ppm | C %  | C org. % | C crb. % | Ca % |
|----------------------|----------|-----------|------|--------|-------|--------|--------|------|----------|----------|------|
| St Clair County      |          |           |      |        |       |        |        |      |          |          |      |
| 145768               | 37 53 45 | 93 39 43  | 4    | 8.7    | 30    | 700    | <1.0   | 1.05 | 1.0      | .02      | .2   |
| 145547               | 38 12 0  | 93 42 0   | 4    | 7.5    | 30    | 500    | N      | 1.29 | 1.2      | .14      | .6   |
| 146198               | 38 12 0  | 93 56 31  | 5    | 15.0   | 30    | 700    | 1.0    | 1.40 | 1.4      | <.01     | .4   |
| 145781               | 38 1 30  | 93 40 58  | 4    | 14.0   | 30    | 500    | 1.5    | 1.27 | 1.2      | .03      | .4   |
| 146111               | 38 8 31  | 93 57 0   | 4    | 17.0   | 30    | 700    | 1.5    | 1.68 | 1.7      | .01      | .1   |
| 145454               | 38 3 28  | 93 55 58  | 4    | 12.0   | 30    | 700    | 1.5    | 1.42 | 1.4      | .07      | .2   |
| 145564               | 38 0 28  | 93 51 0   | 3    | 8.0    | 30    | 500    | N      | 1.03 | 1.0      | .05      | .2   |
| 145929               | 38 4 58  | 93 37 58  | 4    | 7.4    | 30    | 500    | 1.0    | 2.37 | 2.3      | .03      | .5   |
| 146376               | 38 9 14  | 93 39 28  | 4    | 7.9    | 30    | 300    | 1.0    | 1.45 | 1.4      | <.01     | .2   |
| 146288               | 37 57 14 | 93 55 1   | 3    | 10.0   | 30    | 300    | <1.0   | 1.08 | 1.1      | .02      | .2   |
| St Francois County   |          |           |      |        |       |        |        |      |          |          |      |
| 145988               | 37 59 31 | 90 27 46  | 6    | 12.0   | 30    | 700    | 1.0    | 1.11 | 1.1      | .04      | .3   |
| 145570               | 37 56 31 | 90 25 30  | 5    | 9.9    | 50    | 1,000  | 1.0    | 1.28 | 1.2      | .05      | .4   |
| 145756               | 37 49 1  | 90 24 28  | 4    | 9.2    | 30    | 500    | 1.0    | .60  | .6       | <.01     | .2   |
| 146525               | 37 44 45 | 90 20 13  | 4    | 7.6    | 20    | 500    | <1.0   | .83  | .8       | .01      | .2   |
| 146031               | 37 40 1  | 90 15 0   | 3    | 7.4    | 30    | 700    | 1.0    | 1.26 | 1.2      | .02      | .3   |
| 145943               | 37 45 28 | 90 28 15  | 4    | 7.5    | 30    | 700    | 1.0    | .83  | .8       | .04      | .1   |
| 145818               | 37 46 1  | 90 31 15  | 4    | 9.3    | 30    | 500    | N      | .81  | .7       | .07      | .3   |
| 145671               | 37 49 1  | 90 30 28  | 3    | 9.4    | 30    | 300    | N      | 1.36 | 1.2      | .12      | .6   |
| 145500               | 37 54 43 | 90 32 13  | 6    | 7.9    | 30    | 700    | 1.0    | 1.09 | 1.0      | .08      | .3   |
| 146425               | 38 0 14  | 90 34 1   | 3    | 7.7    | 20    | 300    | N      | 3.86 | 3.5      | .32      | 5.4  |
| St Louis County      |          |           |      |        |       |        |        |      |          |          |      |
| 146044               | 38 48 0  | 90 19 58  | 4    | 7.7    | 20    | 700    | <1.0   | 2.23 | 2.2      | .03      | .7   |
| 146434               | 38 49 1  | 90 15 0   | 4    | 8.1    | 30    | 700    | <1.0   | .46  | .4       | .04      | .4   |
| 145753               | 38 46 1  | 90 15 0   | 5    | 19.0   | 30    | 700    | <1.0   | 1.36 | 1.3      | .05      | .6   |
| 145732               | 38 37 1  | 90 28 58  | 4    | 9.1    | 30    | 700    | <1.0   | 1.81 | 1.8      | .01      | .4   |
| 145694               | 38 40 1  | 90 31 58  | 5    | 9.4    | 30    | 1,000  | <1.0   | .35  | .3       | .04      | .4   |
| 145472               | 38 37 58 | 90 37 1   | 4    | 7.2    | 50    | 700    | <1.0   | 1.53 | 1.4      | .18      | 1.0  |
| 145700               | 38 40 58 | 90 27 57  | 4    | 8.5    | 30    | 700    | <1.0   | .48  | .4       | .08      | .4   |
| 146290               | 38 28 58 | 90 24 0   | 5    | 6.7    | 30    | 700    | N      | .49  | .5       | .03      | .3   |
| 146314               | 38 34 1  | 90 28 58  | 4    | 7.4    | 50    | 700    | <1.0   | .65  | .6       | .04      | .4   |
| 145716               | 38 39 0  | 90 25 1   | 5    | 14.0   | 30    | 700    | 1.0    | .37  | .4       | .02      | .4   |
| Ste Genevieve County |          |           |      |        |       |        |        |      |          |          |      |
| 146139               | 38 2 31  | 90 12 43  | 5    | 7.4    | 30    | 500    | 1.0    | 1.72 | 1.7      | .03      | .4   |
| 145740               | 37 56 45 | 90 5 13   | 6    | 9.7    | 30    | 700    | <1.0   | .70  | .7       | .02      | .4   |
| 145426               | 37 53 31 | 90 4 1    | 5    | 8.6    | 30    | 700    | 1.0    | .92  | .8       | .12      | .6   |
| 146594               | 37 55 1  | 90 1 1    | 5    | 7.6    | 30    | 700    | N      | .73  | .7       | .04      | .4   |
| 145806               | 37 57 28 | 90 0 43   | 5    | 6.8    | 30    | 700    | <1.0   | 1.27 | 1.2      | .08      | .8   |
| 145527               | 37 45 28 | 90 7 30   | 5    | 8.1    | 50    | 700    | 1.5    | .84  | .8       | .09      | .1   |
| 145668               | 37 46 58 | 90 4 30   | 4    | 6.4    | 30    | 700    | 1.0    | .99  | 1.0      | <.01     | .4   |
| 146595               | 37 46 58 | 90 12 28  | 3    | 8.8    | 20    | 500    | <1.0   | .82  | .8       | .03      | .3   |
| 145435               | 37 58 58 | 90 12 0   | 5    | 6.0    | 20    | 700    | 1.0    | 1.07 | 1.0      | .07      | .4   |
| 146154               | 38 0 43  | 90 14 16  | 5    | 11.0   | 30    | 700    | <1.0   | .87  | .8       | .02      | .4   |

Table 3.--Locations and concentrations of frequently detected elements for agricultural soils of Missouri--continued

| Sample               | Ce ppm | Co ppm | Cr ppm | Cu ppm | F%   | Fe % | Ga ppm | Hg ppm | I ppm | K % | La ppm |
|----------------------|--------|--------|--------|--------|------|------|--------|--------|-------|-----|--------|
| St Clair County      |        |        |        |        |      |      |        |        |       |     |        |
| 145768               | <150   | 10     | 50     | 10     | .019 | 1.9  | 7      | .05    | --    | 1.7 | 50     |
| 145547               | <150   | 10     | 50     | 7      | .092 | 1.5  | 7      | .04    | --    | 1.0 | 30     |
| 146198               | 150    | 15     | 70     | 20     | .042 | 3.4  | 15     | .04    | --    | 1.2 | 70     |
| 145781               | <150   | 15     | 70     | 10     | .021 | 2.9  | 15     | .02    | --    | 1.0 | 30     |
| 146111               | 150    | 20     | 70     | 20     | .016 | 5.4  | 15     | .04    | --    | 1.2 | 50     |
| 145454               | 150    | 15     | 70     | 20     | .020 | 3.8  | 15     | .05    | --    | 1.2 | 70     |
| 145564               | <150   | 10     | 100    | 10     | .088 | 1.8  | 7      | .10    | --    | 1.1 | 30     |
| 145929               | <150   | 15     | 70     | 20     | .023 | 2.5  | 10     | .05    | --    | 1.3 | 70     |
| 146376               | <150   | 10     | 30     | 10     | .024 | 2.5  | 10     | .02    | --    | 1.0 | 30     |
| 146288               | 150    | 10     | 100    | 10     | .015 | 1.9  | 7      | .01    | 6.06  | .7  | 50     |
| St Francois County   |        |        |        |        |      |      |        |        |       |     |        |
| 145988               | 150    | 15     | 70     | 15     | .036 | 3.4  | 15     | .04    | --    | 2.7 | 70     |
| 145570               | <150   | 15     | 50     | 15     | .098 | 2.4  | 15     | .03    | --    | 2.2 | 50     |
| 145756               | <150   | 15     | 50     | 10     | .020 | 2.2  | 10     | .04    | --    | 1.6 | 50     |
| 146525               | <150   | 7      | 30     | 10     | .036 | 1.7  | 7      | .02    | 4.77  | 1.7 | 30     |
| 146031               | <150   | 15     | 70     | 20     | .023 | 2.1  | 10     | .04    | --    | 1.7 | 70     |
| 145943               | 150    | 15     | 70     | 15     | .017 | 2.0  | 15     | .04    | --    | 1.7 | 70     |
| 145818               | <150   | 15     | 70     | 15     | .021 | 2.2  | 15     | .04    | --    | 1.5 | 50     |
| 145671               | N      | 7      | 50     | 15     | .016 | 2.1  | 7      | .08    | --    | 1.0 | 30     |
| 145500               | <150   | 15     | 70     | 15     | .190 | 2.4  | 15     | .03    | --    | 3.3 | 30     |
| 146425               | <150   | 15     | 30     | 70     | .012 | 2.4  | 7      | .04    | --    | 1.7 | 30     |
| St Louis County      |        |        |        |        |      |      |        |        |       |     |        |
| 146044               | <150   | 3      | 50     | 15     | .340 | 2.1  | 10     | .08    | --    | 1.6 | 50     |
| 146434               | <150   | 7      | 50     | 10     | .004 | 1.3  | 10     | .03    | --    | 1.9 | 30     |
| 145753               | 150    | 10     | 70     | 20     | .024 | 2.9  | 15     | .07    | --    | 2.1 | 50     |
| 145732               | <150   | 7      | 30     | 15     | .027 | 1.7  | 7      | .04    | --    | 1.8 | 50     |
| 145694               | <150   | 10     | 70     | 15     | .096 | 2.1  | 10     | .04    | --    | 2.1 | 50     |
| 145472               | 150    | 7      | 70     | 10     | .019 | 1.5  | 10     | .06    | --    | 1.7 | 50     |
| 145700               | 150    | 7      | 50     | 10     | .043 | 2.0  | 10     | .03    | --    | 1.8 | 70     |
| 146290               | 150    | 10     | 70     | 15     | .016 | 1.7  | 15     | .01    | --    | 1.7 | 50     |
| 146314               | 150    | 7      | 70     | 15     | .022 | 2.1  | 15     | .04    | 3.34  | 1.7 | 50     |
| 145716               | <150   | 10     | 70     | 15     | .029 | 2.5  | 15     | .04    | --    | 2.0 | 70     |
| Ste Genevieve County |        |        |        |        |      |      |        |        |       |     |        |
| 146139               | 150    | 15     | 70     | 15     | .038 | 2.2  | 15     | .04    | --    | 2.0 | 50     |
| 145740               | 150    | 10     | 70     | 15     | .027 | 2.9  | 15     | .03    | --    | 2.0 | 50     |
| 145426               | <150   | 10     | 30     | 15     | .098 | 2.0  | 15     | .05    | --    | 1.9 | 50     |
| 146594               | <150   | 10     | 50     | 15     | .027 | 1.8  | 15     | .04    | --    | 1.8 | 50     |
| 145806               | <150   | 7      | 70     | 20     | .024 | 2.3  | 15     | .07    | --    | 2.1 | 30     |
| 145527               | 150    | 15     | 50     | 10     | .076 | 2.2  | 10     | .04    | --    | 1.9 | 50     |
| 145668               | <150   | 10     | 50     | 10     | .058 | 2.0  | 10     | .05    | --    | 1.9 | 30     |
| 146595               | <150   | 10     | 30     | 20     | .027 | 1.7  | 7      | .03    | 5.92  | 1.7 | 30     |
| 145435               | <150   | 10     | 50     | 20     | .026 | 1.9  | 15     | .06    | --    | 2.1 | 50     |
| 146154               | <150   | 15     | 70     | 15     | .029 | 2.7  | 15     | .04    | --    | 1.9 | 30     |



Table 3.--Locations and concentrations of frequently detected elements for agricultural soils of Missouri--continued

| Sample               | Li ppm | Mg % | Mn ppm | Na % | Nb ppm | Nd ppm | Ni ppm | P % | Pb ppm | Sc ppm | Se ppm |
|----------------------|--------|------|--------|------|--------|--------|--------|-----|--------|--------|--------|
| St Clair County      |        |      |        |      |        |        |        |     |        |        |        |
| 145768               | 22     | .24  | 700    | .42  | <10    | 70     | 15     | .06 | 15     | 7      | 1.8    |
| 145547               | 18     | .22  | 700    | .34  | 10     | <70    | 15     | .04 | 20     | 7      | .2     |
| 146198               | 31     | .35  | 1,000  | .62  | <10    | 70     | 50     | .09 | 30     | 15     | 1.5    |
| 145781               | 21     | .24  | 1,500  | .57  | 10     | <70    | 15     | .05 | 30     | 7      | .4     |
| 146111               | 28     | .18  | 1,500  | .28  | <10    | 70     | 30     | .13 | 20     | 10     | .4     |
| 145454               | 27     | .22  | 1,500  | .22  | <10    | 70     | 20     | .08 | 20     | 10     | .5     |
| 145564               | 19     | .21  | 1,000  | .39  | <10    | <70    | 10     | .04 | 15     | 7      | .5     |
| 145929               | 26     | .25  | 1,500  | .27  | <10    | 70     | 30     | .09 | 20     | 7      | <.1    |
| 146376               | 29     | .21  | 700    | .25  | <10    | 70     | 15     | .04 | 15     | 7      | .7     |
| 146288               | 19     | .14  | 300    | .22  | <10    | 70     | 20     | .04 | 15     | 7      | .2     |
| St Francois County   |        |      |        |      |        |        |        |     |        |        |        |
| 145988               | 25     | .40  | 1,500  | .47  | 10     | 70     | 20     | .04 | 30     | 15     | <.1    |
| 145570               | 21     | .34  | 1,500  | .59  | 10     | 70     | 15     | .06 | 15     | 7      | .5     |
| 145756               | 27     | .35  | 700    | .46  | <10    | 70     | 15     | .03 | 20     | 7      | .2     |
| 146525               | 23     | .24  | 1,500  | .46  | <10    | <70    | 10     | .03 | 15     | 7      | .3     |
| 146031               | 18     | .21  | 1,500  | .30  | <10    | 70     | 20     | .13 | 100    | 7      | <.1    |
| 145943               | 23     | .21  | 1,500  | .41  | 10     | 70     | 20     | .09 | 30     | 10     | <.1    |
| 145818               | 23     | .37  | 1,000  | .42  | 10     | <70    | 15     | .03 | 70     | 7      | .2     |
| 145671               | 18     | .22  | 500    | .29  | 10     | <70    | 7      | .10 | 100    | 7      | .4     |
| 145500               | 20     | .35  | 700    | .35  | <10    | 70     | 20     | .06 | 70     | 10     | .4     |
| 146425               | 12     | 2.63 | 1,500  | .23  | <10    | <70    | 15     | .03 | 1,500  | 7      | .4     |
| St Louis County      |        |      |        |      |        |        |        |     |        |        |        |
| 146044               | 18     | .36  | 200    | .88  | <10    | 70     | 10     | .04 | 30     | 7      | .3     |
| 146434               | 15     | .23  | 1,000  | .99  | <10    | <70    | 15     | .04 | 20     | 7      | .3     |
| 145753               | 23     | .42  | 700    | .85  | <10    | 70     | 30     | .16 | 50     | 10     | .2     |
| 145732               | 17     | .27  | 700    | .82  | <10    | 70     | 15     | .11 | 30     | 7      | .3     |
| 145694               | 21     | .36  | 700    | .95  | <10    | 70     | 15     | .07 | 15     | 7      | .2     |
| 145472               | 18     | .25  | 700    | .85  | <10    | 70     | 15     | .23 | 15     | 7      | .2     |
| 145700               | 21     | .35  | 300    | .88  | <10    | 70     | 15     | .06 | 15     | 10     | .1     |
| 146290               | 21     | .24  | 1,000  | .84  | 10     | 70     | 15     | .09 | 20     | 10     | .1     |
| 146314               | 23     | .35  | 1,500  | .88  | 10     | 70     | 20     | .04 | 20     | 7      | 2.3    |
| 145716               | 21     | .44  | 700    | .74  | <10    | 70     | 30     | .05 | 20     | 15     | .3     |
| Ste Genevieve County |        |      |        |      |        |        |        |     |        |        |        |
| 146139               | 25     | .38  | 1,000  | .63  | 10     | 70     | 20     | .04 | 30     | 10     | <.1    |
| 145740               | 25     | .42  | 700    | .66  | <10    | 70     | 20     | .08 | 15     | 10     | .4     |
| 145426               | 20     | .34  | 1,500  | .74  | <10    | 70     | 20     | .06 | 15     | 7      | .5     |
| 146594               | 20     | .27  | 1,000  | .73  | <10    | <70    | 15     | .09 | 15     | 7      | <.1    |
| 145806               | 23     | .44  | 700    | .89  | <10    | 70     | 20     | .12 | 70     | 10     | <.1    |
| 145527               | 22     | .26  | 1,500  | .43  | 10     | 70     | 30     | .07 | 15     | 7      | .4     |
| 145668               | 19     | .23  | 700    | .59  | 10     | 70     | 15     | .08 | 20     | 7      | .4     |
| 146595               | 18     | .18  | 1,500  | .24  | <10    | <70    | 20     | .09 | 50     | 7      | .4     |
| 145435               | 21     | .28  | 1,500  | .62  | <10    | 70     | 20     | .12 | 15     | 7      | .2     |
| 146154               | 25     | .37  | 700    | .59  | <10    | 70     | 20     | .04 | 30     | 10     | <.1    |

Table 3.--Locations and concentrations of frequently detected elements for agricultural soils of Missouri--continued

| Sample               | Si % | Sr ppm | Th ppm | Ti % | U ppm | V ppm | Y ppm | Yb ppm | Zn ppm | Zr ppm |
|----------------------|------|--------|--------|------|-------|-------|-------|--------|--------|--------|
| St Clair County      |      |        |        |      |       |       |       |        |        |        |
| 145768               | 38   | 70     | --     | .30  | --    | 70    | 50    | 5.0    | 36     | 300    |
| 145547               | 38   | 70     | --     | .30  | --    | 50    | 20    | 3.0    | 36     | 300    |
| 146198               | 32   | 150    | --     | .30  | --    | 150   | 50    | 3.0    | 57     | 300    |
| 145781               | 37   | 100    | 11.24  | .50  | 4.08  | 70    | 50    | 5.0    | 36     | 500    |
| 146111               | 34   | 150    | --     | .30  | --    | 70    | 50    | 5.0    | 67     | 200    |
| 145454               | 35   | 70     | 9.22   | .50  | 4.48  | 70    | 30    | 3.0    | 48     | 500    |
| 145564               | 37   | 70     | --     | .30  | --    | 50    | 30    | 3.0    | 29     | 300    |
| 145929               | 32   | 70     | --     | .30  | --    | 70    | 50    | 5.0    | 77     | 300    |
| 146376               | 35   | 70     | --     | .30  | --    | 70    | 30    | 3.0    | 36     | 300    |
| 146288               | 38   | 70     | --     | .30  | --    | 70    | 30    | 3.0    | 21     | 300    |
| St Francois County   |      |        |        |      |       |       |       |        |        |        |
| 145988               | 31   | 150    | --     | .50  | --    | 100   | 50    | 5.0    | 49     | 300    |
| 145570               | 32   | 150    | 11.67  | .50  | 4.07  | 70    | 50    | 3.0    | 45     | 300    |
| 145756               | 38   | 70     | --     | .30  | --    | 70    | 30    | 3.0    | 46     | 300    |
| 146525               | 37   | 70     | 6.34   | .30  | 3.70  | 30    | 30    | 3.0    | 40     | 200    |
| 146031               | 35   | 100    | --     | .30  | --    | 70    | 50    | 5.0    | 83     | 300    |
| 145943               | 34   | 150    | --     | .50  | --    | 70    | 50    | 5.0    | 42     | 500    |
| 145818               | 38   | 100    | --     | .50  | --    | 70    | 30    | 3.0    | 66     | 500    |
| 145671               | 38   | 70     | --     | .30  | --    | 70    | 50    | 5.0    | 49     | 300    |
| 145500               | 32   | 150    | --     | .50  | --    | 100   | 30    | 3.0    | 48     | 300    |
| 146425               | 27   | 70     | --     | .15  | --    | 30    | 15    | 2.0    | 590    | 150    |
| St Louis County      |      |        |        |      |       |       |       |        |        |        |
| 146044               | 31   | 200    | --     | .30  | --    | 70    | 30    | 3.0    | 58     | 200    |
| 146434               | 38   | 150    | --     | .30  | --    | 70    | 30    | 3.0    | 52     | 700    |
| 145753               | 34   | 150    | --     | .30  | --    | 70    | 30    | 3.0    | 114    | 300    |
| 145732               | 35   | 150    | --     | .30  | --    | 70    | 30    | 3.0    | 61     | 300    |
| 145694               | 36   | 150    | --     | .30  | --    | 70    | 50    | 3.0    | 58     | 500    |
| 145472               | 35   | 150    | --     | .30  | --    | 70    | 30    | 3.0    | 74     | 500    |
| 145700               | 36   | 150    | 9.11   | .30  | 3.15  | 70    | 50    | 5.0    | 55     | 500    |
| 146290               | 36   | 150    | 12.74  | .50  | 3.52  | 70    | 50    | 5.0    | 60     | 500    |
| 146314               | 35   | 200    | --     | .30  | --    | 100   | 50    | 7.0    | 62     | 300    |
| 145716               | 35   | 150    | --     | .50  | --    | 100   | 50    | 3.0    | 69     | 300    |
| Ste Genevieve County |      |        |        |      |       |       |       |        |        |        |
| 146139               | 34   | 150    | --     | .30  | --    | 70    | 30    | 5.0    | 87     | 300    |
| 145740               | 35   | 150    | --     | .30  | --    | 70    | 30    | 3.0    | 68     | 300    |
| 145426               | 35   | 150    | --     | .30  | --    | 70    | 30    | 2.0    | 63     | 500    |
| 146594               | 37   | 150    | 11.79  | .30  | 3.73  | 70    | 30    | 3.0    | 45     | 300    |
| 145806               | 35   | 200    | --     | .50  | --    | 70    | 30    | 3.0    | 126    | 200    |
| 145527               | 36   | 100    | --     | .50  | --    | 70    | 70    | 5.0    | 42     | 500    |
| 145668               | 36   | 100    | --     | .50  | --    | 70    | 30    | 3.0    | 43     | 300    |
| 146595               | 37   | 150    | --     | .20  | --    | 50    | 30    | 3.0    | 56     | 200    |
| 145435               | 35   | 100    | 6.93   | .50  | 3.73  | 70    | 50    | 3.0    | 57     | 300    |
| 146154               | 39   | 150    | --     | .30  | --    | 100   | 30    | 3.0    | 50     | 300    |

Table 3.--Locations and concentrations of frequently detected elements for agricultural soils of Missouri--continued

| Sample          | Latitude | Longitude | Al % | As ppm | B ppm | Ba ppm | Be ppm | C %  | C org. % | C crb. % | Ca % |
|-----------------|----------|-----------|------|--------|-------|--------|--------|------|----------|----------|------|
| Saline County   |          |           |      |        |       |        |        |      |          |          |      |
| 145976          | 39 21 0  | 93 8 31   | 4    | 8.6    | 30    | 700    | 1.5    | 1.28 | 1.3      | <.01     | .4   |
| 145677          | 39 15 0  | 93 4 15   | 4    | 7.6    | 30    | 700    | <1.0   | 1.89 | 1.9      | .02      | .6   |
| 146362          | 39 4 30  | 93 0 28   | 4    | 11.0   | 30    | 1,000  | 1.5    | 1.64 | 1.6      | .02      | .5   |
| 145610          | 39 13 58 | 93 26 31  | 7    | 11.0   | 30    | 700    | 1.5    | 1.60 | 1.5      | .07      | .9   |
| 145617          | 39 9 43  | 93 21 43  | 5    | 11.0   | 50    | 700    | 1.0    | 1.74 | 1.7      | .04      | .4   |
| 146339          | 39 5 31  | 93 13 44  | 5    | 16.0   | 30    | 700    | 1.0    | 1.64 | 1.6      | .06      | .6   |
| 146175          | 39 0 28  | 93 18 57  | 4    | 9.5    | 30    | 700    | N      | 1.55 | 1.5      | .02      | .5   |
| 146432          | 39 1 1   | 93 27 0   | 4    | 8.7    | 30    | 500    | <1.0   | .90  | .9       | <.01     | .3   |
| 145583          | 38 57 0  | 93 10 30  | 5    | 13.0   | 50    | 700    | 1.5    | 1.44 | 1.4      | .07      | .4   |
| 146401          | 38 58 58 | 93 4 58   | 3    | 5.4    | 30    | 500    | N      | 1.26 | 1.3      | <.01     | .3   |
| Schuyler County |          |           |      |        |       |        |        |      |          |          |      |
| 146137          | 40 34 1  | 92 39 0   | 5    | 9.6    | 30    | 700    | 1.0    | 1.78 | 1.7      | .05      | .6   |
| 146377          | 40 29 31 | 92 22 30  | 5    | 11.0   | 30    | 500    | 1.0    | 2.32 | 2.3      | <.01     | .4   |
| 146136          | 40 21 28 | 92 28 30  | 5    | 15.0   | 30    | 700    | <1.0   | 1.84 | 1.8      | <.01     | .4   |
| 145784          | 40 27 28 | 92 33 43  | 4    | 6.8    | 30    | 500    | <1.0   | 2.06 | 2.1      | <.01     | .5   |
| 146122          | 40 32 31 | 92 34 30  | 6    | 13.0   | 30    | 700    | 1.0    | 2.67 | 2.6      | .02      | .6   |
| 145657          | 40 30 28 | 92 30 28  | 5    | 8.9    | 30    | 700    | 1.5    | 1.57 | 1.6      | .02      | .4   |
| 145596          | 40 25 58 | 92 23 31  | 5    | 17.0   | 30    | 700    | 1.5    | 2.01 | 1.9      | .07      | .4   |
| 145659          | 40 25 30 | 92 36 14  | 5    | 8.3    | 30    | 700    | 1.0    | 1.89 | 1.8      | .04      | .4   |
| 146568          | 40 24 14 | 92 30 0   | 5    | 15.0   | 20    | 700    | <1.0   | 2.00 | 2.0      | .03      | .4   |
| 145914          | 40 31 58 | 92 27 57  | 6    | 13.0   | 30    | 700    | 1.0    | 1.90 | 1.9      | <.01     | .4   |
| Scotland County |          |           |      |        |       |        |        |      |          |          |      |
| 146543          | 40 31 30 | 92 19 30  | 5    | 12.0   | 30    | 700    | 1.0    | 1.50 | 1.4      | .05      | .4   |
| 146302          | 40 21 28 | 92 12 0   | 4    | 13.0   | 30    | 700    | 1.5    | 2.20 | 2.2      | .03      | .4   |
| 145865          | 40 23 31 | 92 4 1    | 4    | 10.0   | 30    | 700    | 1.0    | 1.98 | 2.0      | <.01     | .4   |
| 146558          | 40 32 31 | 92 7 58   | 5    | 10.0   | 30    | 500    | <1.0   | 2.11 | 2.0      | .07      | .5   |
| 145735          | 40 34 1  | 92 17 31  | 5    | 12.0   | 30    | 700    | <1.0   | 1.50 | 1.5      | .03      | .4   |
| 145415          | 40 24 14 | 92 9 0    | 6    | 10.0   | 30    | 500    | 1.0    | 2.11 | 2.1      | .05      | .4   |
| 146231          | 40 21 28 | 92 0 28   | 4    | 6.7    | 30    | 300    | <1.0   | 1.31 | 1.3      | .02      | .3   |
| 145479          | 40 24 0  | 91 58 30  | 5    | 13.0   | 30    | 500    | <1.0   | 1.55 | 1.5      | .05      | .5   |
| 146605          | 40 27 28 | 92 0 14   | 5    | 12.0   | <20   | 300    | 1.0    | 1.09 | 1.1      | <.01     | .3   |
| 146141          | 40 22 58 | 92 14 31  | 4    | 12.0   | 30    | 700    | 1.0    | 1.82 | 1.8      | .03      | .5   |
| Scott County    |          |           |      |        |       |        |        |      |          |          |      |
| 146148          | 37 0 0   | 89 39 28  | 4    | 3.5    | 30    | 700    | N      | .57  | .6       | <.01     | .4   |
| 145947          | 36 56 31 | 89 27 14  | 4    | 3.9    | 20    | 700    | N      | 1.01 | 1.0      | .01      | .9   |
| 145886          | 36 54 0  | 89 37 15  | 3    | 5.8    | 30    | 700    | N      | .62  | .6       | .03      | .6   |
| 145589          | 37 1 15  | 89 31 44  | 3    | 2.7    | <20   | 700    | N      | .57  | .5       | .06      | .4   |
| 146438          | 37 1 15  | 89 41 31  | 3    | 2.9    | <20   | 500    | N      | .77  | .7       | .03      | .4   |
| 146245          | 37 7 1   | 89 42 28  | 5    | 7.1    | 30    | 1,000  | N      | .94  | .9       | <.01     | .5   |
| 145720          | 36 57 28 | 89 40 15  | 3    | 5.0    | 30    | 700    | <1.0   | 1.06 | 1.0      | .08      | .6   |
| 145651          | 37 7 30  | 89 30 43  | 4    | 4.5    | 30    | 1,000  | <1.0   | .70  | .6       | .07      | .5   |
| 145723          | 37 6 14  | 89 24 0   | 6    | 9.2    | 30    | 700    | <1.0   | 1.22 | 1.1      | .13      | 1.0  |
| 145537          | 37 9 28  | 89 33 0   | 6    | 14.0   | 50    | 700    | 1.0    | .30  | .3       | .03      | .3   |

Table 3.--Locations and concentrations of frequently detected elements for agricultural soils of Missouri--continued

| Sample          | Ce ppm | Co ppm | Cr ppm | Cu ppm | F%   | Fe % | Ga ppm | Hg ppm | I ppm | K % | La ppm |
|-----------------|--------|--------|--------|--------|------|------|--------|--------|-------|-----|--------|
| Saline County   |        |        |        |        |      |      |        |        |       |     |        |
| 145976          | <150   | 15     | 70     | 30     | .025 | 2.1  | 15     | .03    | --    | 2.1 | 30     |
| 145677          | <150   | 7      | 70     | 10     | .024 | 1.7  | 10     | .02    | 6.00  | 1.7 | 30     |
| 146362          | 150    | 7      | 70     | 15     | .025 | 2.0  | 15     | .03    | --    | 1.9 | 50     |
| 145610          | 200    | 10     | 70     | 30     | .061 | 3.5  | 20     | .05    | --    | 2.3 | 70     |
| 145617          | 150    | 10     | 70     | 15     | .028 | 2.5  | 15     | .02    | --    | 1.9 | 50     |
| 146339          | 150    | 15     | 70     | 30     | .035 | 2.8  | 15     | .03    | --    | 1.7 | 50     |
| 146175          | 150    | 7      | 50     | 15     | .023 | 2.0  | 15     | .02    | --    | 1.5 | 50     |
| 146432          | <150   | 7      | 30     | 10     | .064 | 1.7  | 7      | .04    | --    | 1.7 | 30     |
| 145583          | <150   | 15     | 70     | 15     | .090 | 2.9  | 15     | .04    | --    | 1.7 | 70     |
| 146401          | <150   | 7      | 30     | 7      | .006 | 1.4  | 7      | .03    | --    | 1.5 | 30     |
| Schuyler County |        |        |        |        |      |      |        |        |       |     |        |
| 146137          | 150    | 15     | 70     | 15     | .037 | 2.5  | 15     | .03    | --    | 1.2 | 50     |
| 146377          | <150   | 10     | 70     | 15     | .026 | 2.8  | 15     | .03    | --    | 1.4 | 30     |
| 146136          | <150   | 15     | 70     | 30     | .039 | 3.0  | 15     | .02    | --    | 1.5 | 50     |
| 145784          | <150   | 7      | 50     | 15     | .017 | 2.2  | 15     | .02    | --    | 1.3 | 30     |
| 146122          | 150    | 15     | 70     | 15     | .032 | 2.9  | 15     | .05    | --    | 1.5 | 50     |
| 145657          | 150    | 7      | 70     | 15     | .024 | 2.9  | 15     | .05    | --    | 1.5 | 50     |
| 145596          | 150    | 10     | 70     | 15     | .031 | 3.1  | 15     | .03    | --    | 1.6 | 50     |
| 145659          | 150    | 15     | 70     | 10     | .034 | 2.4  | 10     | .05    | 4.63  | 1.5 | 50     |
| 146568          | <150   | 7      | 70     | 15     | .036 | 2.7  | 15     | .06    | --    | 1.3 | 30     |
| 145914          | <150   | 15     | 70     | 30     | .038 | 3.2  | 15     | .04    | --    | 1.6 | 50     |
| Scotland County |        |        |        |        |      |      |        |        |       |     |        |
| 146543          | <150   | 10     | 50     | 10     | .030 | 2.3  | 15     | .02    | --    | 1.4 | 30     |
| 146302          | 150    | 10     | 70     | 15     | .023 | 2.3  | 15     | .03    | --    | 1.2 | 50     |
| 145865          | <150   | 10     | 70     | 15     | .025 | 2.2  | 15     | .04    | 2.49  | 1.7 | 30     |
| 146558          | <150   | 7      | 50     | 10     | .025 | 2.2  | 15     | .02    | --    | 1.3 | 30     |
| 145735          | 150    | 7      | 50     | 10     | .026 | 2.3  | 10     | .04    | --    | 1.8 | 30     |
| 145415          | <150   | 15     | 70     | 20     | .100 | 2.9  | 15     | .05    | --    | 1.5 | 50     |
| 146231          | <150   | 5      | 30     | 15     | .016 | 1.7  | 10     | .01    | --    | .8  | 30     |
| 145479          | <150   | 15     | 70     | 15     | .027 | 2.6  | 15     | .08    | --    | 1.4 | 50     |
| 146605          | <150   | 7      | 70     | 15     | .036 | 2.9  | 15     | .03    | --    | 1.2 | 30     |
| 146141          | <150   | 10     | 70     | 15     | .033 | 2.4  | 15     | .02    | --    | 1.3 | 50     |
| Scott County    |        |        |        |        |      |      |        |        |       |     |        |
| 146148          | <150   | 5      | 20     | 7      | .013 | 1.0  | 7      | .02    | --    | 1.7 | 30     |
| 145947          | <150   | 7      | 20     | 10     | .017 | 1.4  | 10     | .02    | --    | 1.6 | 30     |
| 145886          | <150   | 7      | 30     | 7      | .010 | 1.3  | 7      | .04    | --    | 1.7 | 30     |
| 145589          | <150   | 5      | 20     | 7      | .034 | .9   | 7      | <.01   | --    | 1.6 | 30     |
| 146438          | N      | 3      | 30     | 7      | .010 | 1.1  | 7      | .01    | --    | 1.6 | 30     |
| 146245          | <150   | 7      | 70     | 15     | .024 | 1.9  | 15     | .04    | --    | 1.9 | 30     |
| 145720          | <150   | 3      | 30     | 20     | .015 | 1.3  | 7      | .07    | --    | 1.5 | 30     |
| 145651          | <150   | 3      | 50     | 7      | .020 | 1.3  | 7      | .07    | 1.51  | 1.7 | 30     |
| 145723          | 150    | 7      | 70     | 20     | .035 | 3.0  | 15     | .07    | --    | 1.9 | 50     |
| 145537          | 150    | 10     | 70     | 20     | .170 | 3.2  | 15     | .08    | --    | 2.0 | 70     |

Table 3.--Locations and concentrations of frequently detected elements for agricultural soils of Missouri--continued

| Sample          | Li ppm | Mg % | Mn ppm | Na % | Nb ppm | Nd ppm | Ni ppm | P % | Pb ppm | Sc ppm | Se ppm |
|-----------------|--------|------|--------|------|--------|--------|--------|-----|--------|--------|--------|
| Saline County   |        |      |        |      |        |        |        |     |        |        |        |
| 145976          | 22     | .37  | 1,500  | .85  | <10    | <70    | 30     | .09 | 20     | 10     | .2     |
| 145677          | 19     | .34  | 500    | .83  | <10    | <70    | 10     | .04 | 15     | 7      | .6     |
| 146362          | 21     | .35  | 700    | .74  | 10     | 70     | 20     | .09 | 15     | 7      | .3     |
| 145610          | 39     | 1.03 | 500    | .50  | <10    | 70     | 20     | .08 | 20     | 15     | .8     |
| 145617          | 24     | .43  | 1,000  | .72  | <10    | 70     | 20     | .09 | 20     | 10     | .6     |
| 146339          | 28     | .45  | 1,500  | .73  | 10     | 70     | 30     | .04 | 30     | 10     | .3     |
| 146175          | 23     | .33  | 700    | .84  | <10    | 70     | 15     | .04 | 15     | 7      | .7     |
| 146432          | 18     | .29  | 1,000  | .84  | <10    | 70     | 15     | .04 | 15     | 7      | .6     |
| 145583          | 26     | .48  | 1,000  | .68  | 10     | 70     | 20     | .07 | 30     | 10     | 1.0    |
| 146401          | 20     | .17  | 500    | .62  | <10    | <70    | 7      | .04 | 15     | 7      | .4     |
| Schuyler County |        |      |        |      |        |        |        |     |        |        |        |
| 146137          | 27     | .34  | 700    | .48  | 10     | 70     | 15     | .04 | 20     | 10     | .4     |
| 146377          | 27     | .39  | 700    | .56  | <10    | <70    | 15     | .04 | 15     | 10     | .6     |
| 146136          | 29     | .46  | 1,000  | .64  | <10    | 70     | 30     | .09 | 30     | 10     | .7     |
| 145784          | 23     | .25  | 500    | .56  | <10    | <70    | 20     | .10 | 20     | 7      | 1.8    |
| 146122          | 28     | .49  | 700    | .64  | <10    | 70     | 15     | .09 | 20     | 10     | 1.0    |
| 145657          | 26     | .42  | 200    | .63  | <10    | 70     | 15     | .05 | 20     | 15     | .5     |
| 145596          | 26     | .42  | 1,000  | .69  | <10    | 70     | 15     | .06 | 20     | 10     | 1.1    |
| 145659          | 25     | .27  | 1,000  | .63  | 10     | 70     | 15     | .07 | 20     | 10     | .7     |
| 146568          | 26     | .37  | 700    | .61  | <10    | 70     | 10     | .04 | 20     | 7      | .6     |
| 145914          | 29     | .54  | 500    | .61  | 10     | <70    | 20     | .04 | 20     | 15     | .2     |
| Scotland County |        |      |        |      |        |        |        |     |        |        |        |
| 146543          | 24     | .34  | 1,500  | .64  | <10    | 70     | 15     | .04 | 20     | 7      | .7     |
| 146302          | 23     | .34  | 700    | .57  | 10     | 70     | 15     | .09 | 70     | 10     | .3     |
| 145865          | 24     | .35  | 300    | .72  | <10    | 70     | 15     | .04 | 20     | 10     | .3     |
| 146558          | 25     | .33  | 500    | .56  | <10    | <70    | 15     | .04 | 15     | 7      | .6     |
| 145735          | 23     | .36  | 500    | .79  | <10    | 70     | 15     | .06 | 15     | 7      | .5     |
| 145415          | 27     | .45  | 300    | .54  | <10    | 70     | 20     | .07 | 20     | 15     | .5     |
| 146231          | 21     | .19  | 200    | .42  | <10    | <70    | 7      | .03 | 15     | 7      | .2     |
| 145479          | 26     | .39  | 500    | .52  | <10    | 70     | 15     | .07 | 20     | 10     | .5     |
| 146605          | 29     | .37  | 200    | .43  | <10    | <70    | 15     | .03 | 15     | 10     | .8     |
| 146141          | 25     | .34  | 700    | .59  | 10     | 70     | 15     | .04 | 20     | 10     | .1     |
| Scott County    |        |      |        |      |        |        |        |     |        |        |        |
| 146148          | 13     | .17  | 500    | .85  | <10    | <70    | 15     | .04 | 15     | <5     | <.1    |
| 145947          | 15     | .26  | 500    | .70  | <10    | <70    | 15     | .13 | 15     | 7      | <.1    |
| 145886          | 11     | .16  | 700    | .82  | <10    | <70    | 15     | .06 | 15     | 5      | <.1    |
| 145589          | 10     | .11  | 300    | .67  | <10    | <70    | 15     | .06 | 15     | <5     | .2     |
| 146438          | 13     | .19  | 300    | .80  | <10    | N      | 10     | .09 | 15     | <5     | .5     |
| 146245          | 20     | .34  | 700    | .99  | 10     | 70     | 15     | .09 | 15     | 7      | <.1    |
| 145720          | 17     | .21  | 200    | .91  | <10    | <70    | 15     | .07 | 20     | 7      | .3     |
| 145651          | 12     | .17  | 500    | .92  | <10    | <70    | 10     | .03 | 15     | 7      | .2     |
| 145723          | 29     | .75  | 500    | .82  | <10    | 70     | 30     | .08 | 30     | 10     | .7     |
| 145537          | 24     | .56  | 500    | .72  | 10     | 70     | 20     | .08 | 20     | 15     | .4     |



Table 3.--Locations and concentrations of frequently detected elements for agricultural soils of Missouri--continued

| Sample          | Si % | Sr ppm | Th ppm | Ti % | U ppm | V ppm | Y ppm | Yb ppm | Zn ppm | Zr ppm |
|-----------------|------|--------|--------|------|-------|-------|-------|--------|--------|--------|
| Saline County   |      |        |        |      |       |       |       |        |        |        |
| 145976          | 32   | 150    | --     | .30  | --    | 100   | 30    | 3.0    | 56     | 300    |
| 145677          | 35   | 150    | --     | .30  | --    | 70    | 30    | 3.0    | 45     | 300    |
| 146362          | 34   | 200    | --     | .30  | --    | 70    | 30    | 3.0    | 40     | 300    |
| 145610          | 28   | 300    | --     | .30  | --    | 150   | 30    | 3.0    | 116    | 150    |
| 145617          | 33   | 150    | --     | .30  | --    | 100   | 30    | 3.0    | 66     | 200    |
| 146339          | 33   | 200    | --     | .30  | --    | 100   | 50    | 5.0    | 60     | 300    |
| 146175          | 35   | 150    | --     | .30  | --    | 70    | 30    | 3.0    | 47     | 200    |
| 146432          | 36   | 150    | 12.55  | .30  | 3.62  | 70    | 30    | 3.0    | 38     | 500    |
| 145583          | 34   | 150    | 12.36  | .30  | 4.47  | 150   | 50    | 5.0    | 57     | 300    |
| 146401          | 38   | 70     | --     | .30  | --    | 30    | 30    | 3.0    | 41     | 150    |
| Schuyler County |      |        |        |      |       |       |       |        |        |        |
| 146137          | 34   | 150    | --     | .30  | --    | 70    | 30    | 3.0    | 52     | 200    |
| 146377          | 34   | 150    | --     | .30  | 3.86  | 70    | 30    | 3.0    | 53     | 300    |
| 146136          | 32   | 150    | --     | .30  | --    | 100   | 30    | 3.0    | 70     | 150    |
| 145784          | 36   | 150    | --     | .30  | --    | 70    | 70    | 7.0    | 47     | 300    |
| 146122          | 30   | 150    | --     | .30  | --    | 100   | 30    | 3.0    | 73     | 150    |
| 145657          | 33   | 150    | --     | .30  | --    | 150   | 30    | 3.0    | 61     | 200    |
| 145596          | 34   | 150    | --     | .30  | --    | 70    | 30    | 3.0    | 63     | 300    |
| 145659          | 35   | 150    | --     | .30  | --    | 70    | 30    | 3.0    | 55     | 300    |
| 146568          | 32   | 150    | --     | .30  | --    | 70    | 30    | 3.0    | 53     | 200    |
| 145914          | 30   | 150    | 13.61  | .30  | 4.17  | 150   | 30    | 3.0    | 72     | 300    |
| Scotland County |      |        |        |      |       |       |       |        |        |        |
| 146543          | 34   | 150    | --     | .30  | --    | 70    | 30    | 3.0    | 59     | 300    |
| 146302          | 34   | 200    | --     | .30  | --    | 150   | 30    | 3.0    | 48     | 300    |
| 145865          | 35   | 200    | 14.08  | .50  | 3.08  | 70    | 30    | 3.0    | 48     | 300    |
| 146558          | 33   | 100    | --     | .30  | --    | 70    | 30    | 3.0    | 50     | 150    |
| 145735          | 36   | 150    | --     | .30  | --    | 70    | 30    | 3.0    | 53     | 300    |
| 145415          | 33   | 150    | --     | .30  | --    | 150   | 50    | 3.0    | 60     | 200    |
| 146231          | 38   | 100    | 7.58   | .30  | 3.15  | 70    | 20    | 3.0    | 26     | 300    |
| 145479          | 33   | 150    | --     | .30  | --    | 70    | 30    | 3.0    | 440    | 300    |
| 146605          | 33   | 100    | --     | .30  | --    | 100   | 30    | 3.0    | 44     | 300    |
| 146141          | 35   | 150    | --     | .30  | --    | 100   | 30    | 3.0    | 53     | 300    |
| Scott County    |      |        |        |      |       |       |       |        |        |        |
| 146148          | 40   | 150    | --     | .15  | --    | 30    | 20    | 1.5    | 28     | 300    |
| 145947          | 35   | 150    | --     | .20  | --    | 70    | 15    | 1.5    | 40     | 100    |
| 145886          | 38   | 150    | --     | .30  | --    | 30    | 30    | 3.0    | 29     | 300    |
| 145589          | 41   | 100    | --     | .20  | --    | 30    | 15    | 1.5    | 18     | 200    |
| 146438          | 35   | 150    | --     | .20  | --    | 30    | 15    | 1.5    | 31     | 200    |
| 146245          | 35   | 200    | --     | .30  | 3.33  | 70    | 30    | 3.0    | 54     | 150    |
| 145720          | 38   | 150    | --     | .30  | --    | 50    | 20    | 2.0    | 45     | 300    |
| 145651          | 38   | 150    | --     | .30  | --    | 50    | 30    | 3.0    | 32     | 500    |
| 145723          | 31   | 200    | 7.42   | .30  | 3.21  | 70    | 30    | 3.0    | 94     | 150    |
| 145537          | 32   | 150    | --     | .30  | --    | 150   | 30    | 3.0    | 104    | 300    |

Table 3.--Locations and concentrations of frequently detected elements for agricultural soils of Missouri--continued

| Sample          | Latitude | Longitude | Al % | As ppm | B ppm | Ba ppm | Be ppm | C %  | C org. % | C crb. % | Ca % |
|-----------------|----------|-----------|------|--------|-------|--------|--------|------|----------|----------|------|
| Shannon County  |          |           |      |        |       |        |        |      |          |          |      |
| 146452          | 37 8 31  | 91 23 31  | 3    | 8.2    | 20    | 700    | <1.0   | 1.64 | 1.5      | .17      | .8   |
| 145832          | 37 4 58  | 91 20 31  | 5    | 17.0   | 30    | 300    | 2.0    | 2.93 | 2.9      | .06      | .4   |
| 146020          | 37 16 1  | 91 28 30  | 3    | 7.1    | 30    | 500    | N      | 1.30 | 1.2      | .06      | .3   |
| 145755          | 37 10 15 | 91 19 30  | 4    | 10.0   | 30    | 300    | 1.5    | 2.59 | 2.6      | .02      | .4   |
| 146103          | 37 7 1   | 91 16 58  | 4    | 13.0   | 20    | 300    | 2.0    | 2.57 | 2.5      | .03      | .4   |
| 145441          | 36 56 31 | 91 26 31  | 3    | 8.8    | 20    | 200    | N      | 1.89 | 1.8      | .06      | .1   |
| 145607          | 37 7 30  | 91 13 1   | 4    | 14.0   | 30    | 700    | N      | 1.21 | 1.1      | .09      | .3   |
| 146464          | 37 12 14 | 91 23 31  | 3    | 8.2    | 20    | 300    | <1.0   | 1.47 | 1.5      | .01      | .3   |
| 145606          | 37 7 58  | 91 20 31  | 2    | 6.5    | 30    | 300    | N      | 1.15 | 1.1      | .07      | .1   |
| 146382          | 37 2 31  | 91 19 30  | 4    | 10.0   | <20   | 300    | 1.0    | 1.76 | 1.8      | .01      | .3   |
| Shelby County   |          |           |      |        |       |        |        |      |          |          |      |
| 145654          | 39 55 30 | 92 12 28  | 4    | 7.8    | 20    | 500    | <1.0   | 1.15 | 1.1      | .02      | .2   |
| 145571          | 39 55 30 | 92 2 31   | 5    | 11.0   | 30    | 1,000  | 1.0    | 1.33 | 1.3      | .04      | .5   |
| 146214          | 39 52 1  | 92 1 58   | 3    | 5.2    | 30    | 300    | N      | .96  | 1.0      | <.01     | .3   |
| 146461          | 39 52 44 | 91 51 28  | 4    | 5.7    | 30    | 300    | <1.0   | 1.40 | 1.4      | .01      | .2   |
| 146177          | 39 49 1  | 91 58 58  | 4    | 16.0   | 30    | 700    | 1.5    | 1.46 | 1.4      | .02      | .6   |
| 146560          | 39 49 1  | 92 15 28  | 4    | 10.0   | 30    | 700    | <1.0   | 1.74 | 1.6      | .17      | .9   |
| 145684          | 39 45 28 | 92 12 43  | 4    | 6.6    | 30    | 300    | N      | 1.19 | 1.1      | .07      | .2   |
| 145839          | 39 45 0  | 91 54 43  | 4    | 16.0   | 50    | 700    | 1.0    | 1.59 | 1.6      | .02      | .4   |
| 145669          | 39 41 31 | 92 4 1    | 5    | 14.0   | 30    | 700    | 1.0    | 1.48 | 1.4      | .07      | .4   |
| 146609          | 39 42 0  | 92 16 1   | 5    | 17.0   | 30    | 700    | 1.0    | 1.14 | 1.1      | .02      | .4   |
| Stoddard County |          |           |      |        |       |        |        |      |          |          |      |
| 145692          | 37 7 30  | 89 49 58  | 4    | 16.0   | 30    | 1,500  | <1.0   | 2.58 | 2.6      | .03      | .8   |
| 145466          | 37 0 0   | 89 55 1   | 4    | 7.1    | 50    | 700    | 1.0    | 1.00 | .9       | .06      | .3   |
| 145897          | 37 1 58  | 89 58 1   | 4    | 8.3    | 30    | 700    | N      | .87  | .9       | .01      | .4   |
| 146368          | 36 54 0  | 90 6 20   | 3    | 5.7    | 50    | 1,000  | 1.5    | .74  | .7       | .07      | .2   |
| 145529          | 36 45 28 | 90 7 58   | 4    | 14.0   | 50    | 700    | <1.0   | .69  | .6       | .10      | .3   |
| 145661          | 36 40 30 | 90 2 31   | 3    | 3.9    | 20    | 500    | N      | .74  | .7       | .03      | .4   |
| 146566          | 36 40 30 | 89 58 58  | 3    | 3.5    | <20   | 700    | N      | .98  | .9       | .04      | .4   |
| 145418          | 36 39 28 | 89 49 1   | 4    | 5.1    | 20    | 500    | <1.0   | .85  | .8       | .10      | .4   |
| 145779          | 36 46 1  | 89 44 31  | 6    | 4.9    | 20    | 500    | 1.5    | 1.33 | 1.3      | .07      | .5   |
| 145543          | 36 54 28 | 89 55 1   | 4    | 6.1    | 50    | 500    | N      | .81  | .7       | .09      | .4   |
| Stone County    |          |           |      |        |       |        |        |      |          |          |      |
| 146313          | 36 58 1  | 93 27 0   | 2    | 4.9    | 50    | 700    | <1.0   | 1.92 | 1.9      | <.01     | .1   |
| 146509          | 36 54 0  | 93 33 0   | 3    | 5.5    | 30    | 500    | 1.0    | 1.76 | 1.7      | .02      | .4   |
| 145800          | 36 56 45 | 93 35 31  | 3    | 7.4    | 50    | 700    | 1.0    | 1.75 | 1.6      | .16      | .9   |
| 146251          | 36 46 58 | 93 33 0   | 3    | 6.6    | 70    | 700    | <1.0   | 1.38 | 1.4      | <.01     | .1   |
| 146585          | 36 49 1  | 93 27 0   | 3    | 5.2    | 30    | 500    | 1.0    | .85  | .8       | <.01     | .1   |
| 146158          | 36 52 1  | 93 34 1   | 3    | 6.3    | 30    | 500    | N      | 2.51 | 2.5      | .05      | .3   |
| 146535          | 36 52 1  | 93 28 58  | 3    | 5.5    | 30    | 300    | N      | 2.50 | 2.5      | .01      | .3   |
| 146039          | 36 51 0  | 93 24 0   | 3    | 5.4    | 30    | 300    | N      | 1.51 | 1.5      | <.01     | .1   |
| 145429          | 36 58 1  | 93 22 1   | 4    | 5.3    | 30    | 700    | <1.0   | 2.21 | 2.0      | .23      | .6   |
| 146223          | 36 55 30 | 93 22 1   | 3    | 4.5    | 50    | 700    | 1.0    | .99  | .9       | .08      | .2   |

Table 3.--Locations and concentrations of frequently detected elements for agricultural soils of Missouri--continued

| Sample          | Ce ppm | Co ppm | Cr ppm | Cu ppm | F%   | Fe % | Ga ppm | Hg ppm | I ppm | K % | La ppm |
|-----------------|--------|--------|--------|--------|------|------|--------|--------|-------|-----|--------|
| Shannon County  |        |        |        |        |      |      |        |        |       |     |        |
| 146452          | <150   | 10     | 50     | 15     | .020 | 1.5  | 7      | .04    | --    | 1.1 | 30     |
| 145832          | 150    | 15     | 50     | 50     | .040 | 3.9  | 15     | .07    | --    | 1.0 | 50     |
| 146020          | 150    | 15     | 50     | 15     | .018 | 2.0  | 7      | .04    | --    | 1.1 | 50     |
| 145755          | 150    | 15     | 50     | 30     | .030 | 2.4  | 7      | .05    | --    | 1.1 | 50     |
| 146103          | 150    | 20     | 50     | 30     | .034 | 2.7  | 15     | .06    | --    | .8  | 70     |
| 145441          | <150   | 7      | 50     | 10     | .018 | 1.7  | 7      | .06    | --    | .7  | 30     |
| 145607          | <150   | 15     | 50     | 20     | .170 | 2.8  | 15     | .04    | 7.21  | 1.7 | 50     |
| 146464          | <150   | 10     | 30     | 15     | .017 | 1.7  | 7      | .02    | --    | 1.0 | 30     |
| 145606          | <150   | 5      | 50     | 10     | .019 | 1.4  | 7      | .02    | --    | .6  | 30     |
| 146382          | <150   | 10     | 30     | 15     | .022 | 2.5  | 15     | .11    | --    | .9  | 30     |
| Shelby County   |        |        |        |        |      |      |        |        |       |     |        |
| 145654          | 150    | 7      | 50     | 10     | .140 | 2.3  | 10     | .04    | --    | .7  | 30     |
| 145571          | <150   | 7      | 50     | 10     | .074 | 2.0  | 10     | .03    | --    | 1.5 | 50     |
| 146214          | 150    | 7      | 30     | 7      | .012 | 1.2  | 10     | .04    | --    | 1.2 | 70     |
| 146461          | <150   | 3      | 30     | 10     | .018 | 1.7  | 15     | .03    | --    | .8  | 30     |
| 146177          | 150    | 15     | 70     | 15     | .030 | 2.9  | 15     | .04    | --    | 1.1 | 50     |
| 146560          | <150   | 7      | 70     | 10     | .019 | 2.1  | 10     | .05    | --    | 1.2 | 30     |
| 145684          | <150   | 7      | 30     | 7      | .018 | 1.9  | 10     | .04    | --    | 1.0 | 30     |
| 145839          | <150   | 7      | 70     | 15     | .019 | 2.6  | 10     | .02    | --    | 1.5 | 50     |
| 145669          | <150   | 10     | 70     | 15     | .026 | 3.4  | 15     | .13    | 5.42  | 1.4 | 30     |
| 146609          | <150   | 15     | 70     | 15     | .031 | 3.1  | 15     | .04    | --    | 1.4 | 30     |
| Stoddard County |        |        |        |        |      |      |        |        |       |     |        |
| 145692          | N      | 7      | 30     | 15     | .015 | 3.1  | 10     | .09    | --    | 1.6 | 30     |
| 145466          | 150    | 7      | 70     | 15     | .018 | 1.7  | 10     | .05    | --    | 1.8 | 70     |
| 145897          | <150   | 15     | 70     | 15     | .032 | 2.2  | 15     | .04    | 3.99  | 1.9 | 50     |
| 146368          | 150    | 15     | 70     | 10     | .011 | 1.6  | 10     | .05    | --    | 1.7 | 50     |
| 145529          | <150   | 7      | 70     | 10     | .150 | 2.2  | 10     | .06    | --    | 1.4 | 50     |
| 145661          | N      | 3      | 30     | 7      | .044 | 1.0  | 7      | .04    | --    | 1.5 | 30     |
| 146566          | <150   | 3      | 70     | 5      | .007 | .8   | 7      | .02    | --    | 1.5 | 30     |
| 145418          | N      | 5      | 30     | 10     | .140 | 1.1  | 10     | .06    | --    | 1.6 | 30     |
| 145779          | <150   | 7      | 30     | 20     | .035 | 2.4  | 15     | .09    | --    | 1.7 | 30     |
| 145543          | 150    | 5      | 50     | 7      | .026 | 1.3  | 7      | .04    | --    | 1.6 | 30     |
| Stone County    |        |        |        |        |      |      |        |        |       |     |        |
| 146313          | 150    | 10     | 50     | 10     | .009 | 1.5  | 10     | .07    | --    | 1.1 | 70     |
| 146509          | <150   | 10     | 30     | 10     | .025 | 1.3  | 7      | .05    | --    | 1.2 | 50     |
| 145800          | <150   | 10     | 50     | 20     | .013 | 1.5  | 10     | .04    | --    | 1.2 | 70     |
| 146251          | 150    | 7      | 70     | 15     | .011 | 1.3  | 7      | .05    | --    | 1.1 | 70     |
| 146585          | <150   | 15     | 50     | 10     | .018 | 1.7  | 7      | .06    | --    | 1.1 | 30     |
| 146158          | 150    | 7      | 50     | 10     | .017 | 1.5  | 7      | .21    | --    | 1.1 | 50     |
| 146535          | <150   | 10     | 50     | 10     | .011 | 1.4  | 7      | .05    | --    | .8  | 30     |
| 146039          | <150   | 15     | 50     | 10     | .270 | 1.5  | 7      | .06    | --    | 1.1 | 70     |
| 145429          | 150    | 15     | 30     | 10     | .072 | 1.4  | 7      | .12    | 4.33  | 1.3 | 70     |
| 146223          | 150    | 15     | 50     | 15     | .021 | 1.4  | 10     | .02    | --    | 1.2 | 70     |

Table 3.--Locations and concentrations of frequently detected elements for agricultural soils of Missouri--continued

| Sample          | Li ppm | Mg % | Mn ppm | Na % | Nb ppm | Nd ppm | Ni ppm | P % | Pb ppm | Sc ppm | Se ppm |
|-----------------|--------|------|--------|------|--------|--------|--------|-----|--------|--------|--------|
| Shannon County  |        |      |        |      |        |        |        |     |        |        |        |
| 146452          | 20     | .26  | 1,500  | .22  | <10    | <70    | 15     | .13 | 30     | 7      | .5     |
| 145832          | 44     | .39  | 1,500  | .15  | <10    | 70     | 50     | .06 | 30     | 10     | <.1    |
| 146020          | 18     | .20  | 1,500  | .24  | 10     | 70     | 15     | .09 | 15     | 7      | <.1    |
| 145755          | 31     | .32  | 1,500  | .17  | <10    | 70     | 30     | .10 | 15     | 7      | .3     |
| 146103          | 35     | .37  | 1,500  | .10  | <10    | 70     | 30     | .04 | 30     | 15     | .2     |
| 145441          | 19     | .11  | 700    | .11  | <10    | <70    | 5      | .10 | 30     | <5     | .5     |
| 145607          | 30     | .33  | 1,500  | .26  | <10    | 70     | 15     | .05 | 20     | 10     | .7     |
| 146464          | 21     | .21  | 1,500  | .22  | <10    | <70    | 15     | .09 | 15     | 7      | .5     |
| 145606          | 18     | .11  | 500    | .12  | <10    | <70    | 7      | .06 | 15     | 5      | .4     |
| 146382          | 26     | .25  | 1,000  | .19  | <10    | 70     | 10     | .04 | 20     | 7      | .5     |
| Shelby County   |        |      |        |      |        |        |        |     |        |        |        |
| 145654          | 23     | .18  | 700    | .30  | <10    | <70    | 15     | .03 | 15     | 7      | .4     |
| 145571          | 24     | .28  | 700    | .85  | 10     | 70     | 10     | .07 | 30     | 7      | .3     |
| 146214          | 19     | .17  | 700    | .54  | 10     | 70     | 7      | .04 | 20     | 7      | <.1    |
| 146461          | 21     | .19  | 150    | .38  | <10    | <70    | 15     | .04 | 15     | 7      | .6     |
| 146177          | 25     | .31  | 1,500  | .62  | <10    | 70     | 15     | .09 | 30     | 7      | 1.0    |
| 146560          | 21     | .29  | 500    | .60  | <10    | <70    | 10     | .04 | 20     | 7      | .8     |
| 145684          | 22     | .22  | 300    | .44  | <10    | <70    | 10     | .04 | 15     | 7      | .5     |
| 145839          | 19     | .25  | 700    | .82  | 10     | <70    | 15     | .04 | 20     | 7      | .8     |
| 145669          | 24     | .42  | 700    | .65  | <10    | <70    | 15     | .07 | 20     | 10     | .8     |
| 146609          | 26     | .34  | 1,500  | .69  | <10    | <70    | 15     | .04 | 20     | 7      | 1.5    |
| Stoddard County |        |      |        |      |        |        |        |     |        |        |        |
| 145692          | 19     | .28  | 1,500  | .79  | <10    | <70    | 15     | .61 | 15     | 7      | .5     |
| 145466          | 20     | .24  | 1,500  | .59  | <10    | 70     | 20     | .07 | 15     | 7      | .4     |
| 145897          | 22     | .31  | 700    | .62  | <10    | 70     | 20     | .09 | 15     | 10     | <.1    |
| 146368          | 20     | .19  | 1,500  | .56  | 10     | 70     | 15     | .04 | 20     | 7      | <.1    |
| 145529          | 19     | .29  | 1,500  | .68  | <10    | 70     | 10     | .06 | 15     | 7      | 1.3    |
| 145661          | 11     | .11  | 300    | .70  | <10    | N      | 7      | .08 | 15     | <5     | .2     |
| 146566          | 9      | .14  | 500    | .84  | <10    | <70    | 7      | .09 | 15     | <5     | .2     |
| 145418          | 14     | .18  | 300    | .79  | <10    | <70    | 10     | .08 | 15     | <5     | .3     |
| 145779          | 32     | .50  | 200    | .58  | <10    | 70     | 30     | .07 | 20     | 10     | .4     |
| 145543          | 16     | .24  | 1,500  | .52  | 10     | 70     | 15     | .03 | 15     | 7      | .4     |
| Stone County    |        |      |        |      |        |        |        |     |        |        |        |
| 146313          | 19     | .13  | 1,500  | .28  | 10     | 70     | 15     | .09 | 20     | 7      | .2     |
| 146509          | 21     | .12  | 1,500  | .31  | <10    | 70     | 15     | .04 | 15     | 7      | .2     |
| 145800          | 21     | .15  | 1,500  | .27  | 10     | 70     | 15     | .09 | 20     | 7      | <.1    |
| 146251          | 21     | .13  | 700    | .26  | 15     | 70     | 7      | .04 | 20     | 7      | .4     |
| 146585          | 20     | .11  | 1,500  | .23  | 10     | 70     | 10     | .04 | 15     | 7      | .1     |
| 146158          | 20     | .13  | 700    | .24  | <10    | 70     | 20     | .09 | 20     | 7      | .1     |
| 146535          | 16     | .12  | 1,000  | .15  | <10    | 70     | 15     | .09 | 15     | 7      | .3     |
| 146039          | 19     | .13  | 1,000  | .22  | 15     | 70     | 7      | .04 | 15     | 7      | <.1    |
| 145429          | 20     | .13  | 1,500  | .25  | <10    | 70     | 10     | .10 | 15     | 7      | .4     |
| 146223          | 21     | .17  | 1,500  | .27  | 15     | 70     | 10     | .04 | 20     | 7      | <.1    |

Table 3.--Locations and concentrations of frequently detected elements for agricultural soils of Missouri--continued

| Sample          | Si % | Sr ppm | Th ppm | Ti % | U ppm | V ppm | Y ppm | Yb ppm | Zn ppm | Zr ppm |
|-----------------|------|--------|--------|------|-------|-------|-------|--------|--------|--------|
| Shannon County  |      |        |        |      |       |       |       |        |        |        |
| 146452          | 37   | 100    | --     | .30  | --    | 50    | 30    | 3.0    | 58     | 300    |
| 145832          | 32   | 70     | 12.75  | .30  | 3.67  | 70    | 50    | 5.0    | 117    | 300    |
| 146020          | 35   | 70     | --     | .30  | --    | 70    | 30    | 3.0    | 33     | 300    |
| 145755          | 36   | 70     | 9.86   | .30  | 3.26  | 70    | 50    | 3.0    | 65     | 200    |
| 146103          | 33   | 70     | --     | .30  | --    | 100   | 70    | 7.0    | 59     | 150    |
| 145441          | 38   | 30     | --     | .30  | --    | 30    | 30    | 3.0    | 49     | 300    |
| 145607          | 35   | 70     | --     | .50  | --    | 70    | 50    | 5.0    | 56     | 300    |
| 146464          | 38   | 50     | --     | .30  | --    | 50    | 30    | 3.0    | 40     | 200    |
| 145606          | 40   | 30     | --     | .50  | --    | 30    | 30    | 3.0    | 23     | 300    |
| 146382          | 35   | 70     | --     | .30  | --    | 70    | 30    | 3.0    | 49     | 200    |
| Shelby County   |      |        |        |      |       |       |       |        |        |        |
| 145654          | 37   | 70     | --     | .30  | --    | 70    | 30    | 3.0    | 28     | 300    |
| 145571          | 34   | 150    | --     | .50  | --    | 70    | 30    | 3.0    | 50     | 300    |
| 146214          | 38   | 150    | 9.12   | .30  | 2.79  | 50    | 30    | 3.0    | 25     | 300    |
| 146461          | 38   | 70     | --     | .30  | --    | 50    | 20    | 3.0    | 29     | 500    |
| 146177          | 34   | 150    | --     | .30  | --    | 70    | 30    | 3.0    | 50     | 300    |
| 146560          | 34   | 150    | --     | .30  | --    | 70    | 30    | 3.0    | 56     | 300    |
| 145684          | 37   | 70     | 20.50  | .30  | 2.29  | 70    | 20    | 2.0    | 33     | 300    |
| 145839          | 36   | 150    | --     | .50  | --    | 70    | 30    | 3.0    | 55     | 300    |
| 145669          | 32   | 150    | --     | .30  | --    | 100   | 30    | 3.0    | 56     | 300    |
| 146609          | 33   | 150    | --     | .30  | --    | 70    | 30    | 3.0    | 48     | 300    |
| Stoddard County |      |        |        |      |       |       |       |        |        |        |
| 145692          | 32   | 150    | 6.28   | .30  | 3.05  | 70    | 30    | 3.0    | 67     | 300    |
| 145466          | 36   | 150    | --     | .30  | --    | 70    | 50    | 5.0    | 47     | 500    |
| 145897          | 33   | 150    | --     | .30  | --    | 70    | 30    | 3.0    | 46     | 700    |
| 146368          | 37   | 150    | --     | .50  | --    | 70    | 50    | 3.0    | 41     | 500    |
| 145529          | 36   | 150    | --     | .50  | --    | 100   | 30    | 3.0    | 58     | 500    |
| 145661          | 38   | 100    | --     | .20  | --    | 30    | 15    | 1.5    | 22     | 150    |
| 146566          | 38   | 150    | --     | .20  | --    | 30    | 15    | 1.5    | 26     | 150    |
| 145418          | 37   | 100    | --     | .30  | --    | 50    | 15    | 1.5    | 32     | 200    |
| 145779          | 32   | 100    | --     | .30  | --    | 70    | 30    | 3.0    | 92     | 70     |
| 145543          | 37   | 100    | 8.84   | .50  | 3.36  | 50    | 30    | 3.0    | 38     | 300    |
| Stone County    |      |        |        |      |       |       |       |        |        |        |
| 146313          | 38   | 100    | --     | .70  | --    | 70    | 30    | 5.0    | 31     | 300    |
| 146509          | 38   | 70     | --     | .30  | --    | 50    | 70    | 3.0    | 36     | 300    |
| 145800          | 38   | 100    | --     | .50  | --    | 50    | 50    | 5.0    | 41     | 500    |
| 146251          | 40   | 70     | 10.18  | .50  | 4.05  | 50    | 30    | 5.0    | 29     | 500    |
| 146585          | 39   | 70     | --     | .30  | --    | 50    | 30    | 3.0    | 32     | 500    |
| 146158          | 36   | 70     | --     | .30  | --    | 50    | 30    | 3.0    | 69     | 700    |
| 146535          | 38   | 50     | --     | .30  | --    | 50    | 50    | 3.0    | 72     | 500    |
| 146039          | 35   | 70     | --     | .50  | 4.97  | 50    | 50    | 5.0    | 32     | 300    |
| 145429          | 37   | 70     | --     | .50  | --    | 50    | 50    | 3.0    | 40     | 500    |
| 146223          | 38   | 70     | --     | .50  | --    | 70    | 70    | 7.0    | 32     | 500    |



Table 3.--Locations and concentrations of frequently detected elements for agricultural soils of Missouri--continued

| Sample          | Latitude | Longitude | Al % | As ppm | B ppm | Ba ppm | Be ppm | C %  | C org. % | C crb. % | Ca % |
|-----------------|----------|-----------|------|--------|-------|--------|--------|------|----------|----------|------|
| Sullivan County |          |           |      |        |       |        |        |      |          |          |      |
| 146366          | 40 22 1  | 92 55 1   | 5    | 16.0   | 30    | 700    | 1.5    | 1.59 | 1.6      | <.01     | .4   |
| 146224          | 40 9 0   | 93 18 57  | 4    | 13.0   | 30    | 300    | <1.0   | 1.81 | 1.8      | .03      | .4   |
| 146022          | 40 13 1  | 93 1 1    | 4    | 7.5    | 30    | 300    | 1.0    | 1.72 | 1.7      | .02      | .4   |
| 146094          | 40 4 1   | 92 52 58  | 5    | 14.0   | 30    | 700    | 1.0    | .99  | .9       | .05      | .2   |
| 145702          | 40 7 58  | 92 57 0   | 5    | 16.0   | 30    | 700    | <1.0   | 2.17 | 2.1      | .06      | .3   |
| 145808          | 40 12 0  | 93 6 0    | 5    | 10.0   | 30    | 300    | <1.0   | .59  | .5       | .05      | .5   |
| 145835          | 40 6 0   | 93 3 0    | 5    | 15.0   | 30    | 700    | 1.0    | 2.02 | 2.0      | .04      | .6   |
| 145995          | 40 12 0  | 93 15 57  | 3    | 5.9    | 30    | 500    | N      | 1.92 | 1.9      | .03      | .4   |
| 145520          | 40 7 58  | 93 13 58  | 4    | 6.7    | 30    | 500    | <1.0   | 1.51 | 1.4      | .08      | .4   |
| 146487          | 40 4 58  | 93 18 57  | 4    | 7.5    | <20   | 300    | N      | 1.92 | 1.9      | .03      | .4   |
| Taney County    |          |           |      |        |       |        |        |      |          |          |      |
| 145588          | 36 46 1  | 92 48 0   | 2    | 5.5    | 30    | 300    | N      | .74  | .7       | .06      | <.1  |
| 146408          | 36 46 1  | 92 52 58  | 3    | 6.7    | 30    | 700    | <1.0   | .86  | .8       | .05      | .1   |
| 146539          | 36 43 58 | 92 54 0   | 4    | 13.0   | 30    | 300    | <1.0   | 1.38 | 1.3      | .07      | .3   |
| 145667          | 36 48 0  | 92 58 1   | 2    | 4.3    | 30    | 300    | 1.0    | .66  | .7       | <.01     | .1   |
| 146126          | 36 43 58 | 93 1 1    | 2    | 5.3    | 30    | 300    | N      | 2.28 | 2.2      | .09      | .5   |
| 145586          | 36 45 0  | 93 4 1    | 3    | 8.0    | 30    | 500    | <1.0   | 1.32 | 1.2      | .10      | .1   |
| 146117          | 36 46 58 | 93 9 0    | 2    | 5.0    | 30    | 300    | N      | 1.28 | 1.2      | .04      | .3   |
| 146046          | 36 45 0  | 93 13 1   | 4    | 7.0    | 30    | 700    | <1.0   | 1.72 | 1.7      | .02      | .5   |
| 146565          | 36 33 0  | 93 4 58   | 4    | 5.5    | 30    | 700    | <1.0   | 1.66 | 1.6      | .05      | .2   |
| 145829          | 36 40 1  | 93 4 58   | 2    | 6.6    | 30    | 300    | <1.0   | 1.44 | 1.4      | .07      | .2   |
| Texas County    |          |           |      |        |       |        |        |      |          |          |      |
| 146230          | 37 9 0   | 92 7 30   | 2    | 7.1    | 30    | 200    | N      | 2.25 | 2.2      | .03      | <.1  |
| 145624          | 37 6 14  | 92 9 0    | 2    | 10.0   | 30    | 300    | N      | 1.10 | 1.1      | .02      | <.1  |
| 146399          | 37 7 1   | 91 58 58  | 2    | 5.0    | 20    | 150    | N      | 1.42 | 1.4      | <.01     | <.1  |
| 146573          | 37 10 15 | 91 45 43  | 2    | 4.6    | 30    | 300    | N      | .65  | .6       | .02      | <.1  |
| 145935          | 37 15 14 | 91 51 0   | 3    | 21.0   | 30    | 700    | 1.0    | 1.70 | 1.7      | .01      | .1   |
| 146501          | 37 19 58 | 91 45 28  | 3    | 9.1    | 30    | 300    | <1.0   | .86  | .8       | .02      | .1   |
| 145997          | 37 24 43 | 91 51 0   | 3    | 11.0   | 50    | 700    | 1.0    | 1.32 | 1.3      | .01      | .1   |
| 146330          | 37 30 28 | 91 50 31  | 3    | 9.5    | 30    | 500    | N      | .90  | .9       | .03      | .1   |
| 146056          | 37 32 13 | 92 12 57  | 2    | 4.7    | 30    | 500    | <1.0   | 1.07 | 1.0      | .05      | .1   |
| 146066          | 37 19 58 | 92 7 1    | 3    | 8.3    | 30    | 500    | 1.0    | .95  | .9       | .04      | .1   |
| Vernon County   |          |           |      |        |       |        |        |      |          |          |      |
| 145633          | 38 0 14  | 94 22 1   | 4    | 8.4    | 50    | 300    | 1.5    | 1.46 | 1.5      | <.01     | .1   |
| 146394          | 38 3 28  | 94 30 28  | 3    | 5.1    | 30    | 200    | <1.0   | 1.44 | 1.4      | .02      | .1   |
| 145907          | 37 48 28 | 94 20 31  | 3    | 5.9    | 30    | 300    | 1.0    | .93  | .9       | <.01     | .1   |
| 146562          | 37 47 45 | 94 32 31  | 4    | 7.2    | 30    | 300    | <1.0   | 1.05 | 1.0      | .03      | .1   |
| 145969          | 37 54 28 | 94 9 43   | 3    | 10.0   | 50    | 700    | 1.0    | 1.65 | 1.6      | .02      | .3   |
| 146161          | 37 59 31 | 94 13 1   | 5    | 11.0   | 30    | 700    | <1.0   | 1.98 | 2.0      | .03      | .6   |
| 146239          | 37 45 0  | 94 30 28  | 4    | 10.0   | 30    | 200    | <1.0   | 1.16 | 1.1      | .03      | .2   |
| 146447          | 37 47 13 | 94 16 58  | 3    | 10.0   | 30    | 300    | N      | 1.08 | 1.1      | .03      | .2   |
| 145773          | 37 45 14 | 94 16 15  | 4    | 12.0   | 30    | 700    | 1.0    | .98  | 1.0      | .02      | .2   |
| 145528          | 37 55 58 | 94 12 0   | 4    | 9.3    | 30    | 700    | 1.0    | 1.41 | 1.3      | .07      | .2   |

Table 3.--Locations and concentrations of frequently detected elements for agricultural soils of Missouri--continued

| Sample          | Ce ppm | Co ppm | Cr ppm | Cu ppm | F%   | Fe % | Ga ppm | Hg ppm | I ppm | K % | La ppm |
|-----------------|--------|--------|--------|--------|------|------|--------|--------|-------|-----|--------|
| Sullivan County |        |        |        |        |      |      |        |        |       |     |        |
| 146366          | 150    | 10     | 70     | 15     | .027 | 2.7  | 15     | .03    | --    | 1.3 | 30     |
| 146224          | <150   | 10     | 50     | 15     | .018 | 1.8  | 15     | .01    | --    | 1.1 | 30     |
| 146022          | 300    | 7      | 50     | 15     | .023 | 2.4  | 15     | .04    | 3.26  | 1.2 | 150    |
| 146094          | 150    | 15     | 70     | 15     | .035 | 2.8  | 20     | .03    | --    | 1.6 | 70     |
| 145702          | <150   | 15     | 70     | 15     | .031 | 2.9  | 15     | .05    | --    | 1.5 | 50     |
| 145808          | <150   | 10     | 70     | 20     | .023 | 3.0  | 15     | .03    | --    | 1.4 | 30     |
| 145835          | <150   | 10     | 70     | 30     | .027 | 2.5  | 15     | .03    | --    | 1.6 | 50     |
| 145995          | 150    | 7      | 50     | 10     | .011 | 1.6  | 10     | .33    | --    | 1.2 | 30     |
| 145520          | N      | 7      | 50     | 15     | .190 | 2.0  | 15     | .05    | --    | 1.2 | 30     |
| 146487          | <150   | 7      | 30     | 7      | .010 | 1.9  | 10     | <.01   | --    | 1.0 | 30     |
| Taney County    |        |        |        |        |      |      |        |        |       |     |        |
| 145588          | <150   | 7      | 30     | 7      | .096 | .8   | <5     | .03    | --    | .8  | 30     |
| 146408          | <150   | 10     | 50     | 7      | .020 | 1.4  | 7      | .03    | --    | 1.5 | 70     |
| 146539          | <150   | 10     | 30     | 15     | .042 | 1.7  | 10     | .01    | --    | 2.2 | 30     |
| 145667          | N      | 7      | 20     | 7      | .074 | 1.0  | <5     | .05    | --    | 1.0 | 30     |
| 146126          | <150   | 7      | 30     | 7      | .012 | 1.1  | 5      | .08    | --    | 1.1 | 30     |
| 145586          | <150   | 15     | 30     | 10     | .120 | 1.5  | 7      | .05    | --    | 1.4 | 30     |
| 146117          | <150   | 10     | 30     | 7      | .012 | 1.3  | 10     | .04    | --    | 1.4 | 30     |
| 146046          | <150   | 10     | 50     | 20     | .033 | 2.0  | 10     | .06    | 11.65 | 1.9 | 50     |
| 146565          | <150   | 15     | 70     | 15     | .059 | 1.5  | 10     | .03    | --    | 1.8 | 30     |
| 145629          | 150    | 15     | 50     | 20     | .015 | 1.7  | 7      | .04    | --    | 1.0 | 30     |
| Texas County    |        |        |        |        |      |      |        |        |       |     |        |
| 146230          | <150   | 5      | 30     | 15     | .009 | 1.5  | <5     | .07    | --    | .5  | 30     |
| 145624          | <150   | 10     | 50     | 7      | .007 | 1.7  | 5      | .08    | --    | .7  | 30     |
| 146399          | <150   | 3      | 30     | 7      | .008 | 1.5  | <5     | .02    | --    | .5  | 30     |
| 146573          | <150   | 10     | 50     | 7      | .018 | 1.0  | 7      | .02    | --    | .8  | 30     |
| 145935          | <150   | 20     | 70     | 30     | .029 | 3.4  | 15     | .02    | --    | 1.2 | 30     |
| 146501          | <150   | 7      | 50     | 10     | .017 | 1.7  | 10     | <.01   | 1.67  | .9  | 30     |
| 145997          | 150    | 15     | 50     | 10     | .016 | 2.3  | 7      | .04    | --    | 1.2 | 50     |
| 146330          | <150   | 7      | 70     | 15     | .016 | 2.2  | 15     | .04    | --    | .8  | 30     |
| 146056          | <150   | 7      | 30     | 7      | .012 | 1.0  | 7      | .04    | --    | 1.0 | 30     |
| 146066          | <150   | 10     | 70     | 10     | .023 | 1.9  | 10     | .04    | --    | 1.2 | 50     |
| Vernon County   |        |        |        |        |      |      |        |        |       |     |        |
| 145633          | 150    | 15     | 70     | 15     | .022 | 2.4  | 7      | .13    | 5.80  | 1.0 | 50     |
| 146394          | <150   | 5      | 30     | 7      | .008 | 1.6  | 7      | .03    | --    | .9  | 30     |
| 145907          | <150   | 7      | 30     | 7      | .014 | 1.8  | 7      | .02    | --    | 1.0 | 30     |
| 146562          | <150   | 7      | 70     | 7      | .016 | 1.9  | 10     | <.01   | --    | .8  | 30     |
| 145969          | <150   | 10     | 70     | 30     | .021 | 2.2  | 15     | .04    | --    | 1.1 | 70     |
| 146161          | 150    | 7      | 70     | 15     | .037 | 3.1  | 15     | .04    | --    | 1.3 | 50     |
| 146239          | <150   | 7      | 30     | 15     | .021 | 2.2  | 10     | .03    | --    | .9  | 50     |
| 146447          | <150   | 7      | 70     | 7      | .052 | 2.7  | 7      | .02    | --    | .7  | 30     |
| 145773          | <150   | 15     | 70     | 30     | .020 | 2.6  | 15     | .03    | --    | 1.0 | 30     |
| 145528          | <150   | 10     | 70     | 10     | .200 | 2.0  | 10     | .04    | --    | 1.2 | 50     |

Table 3.--Locations and concentrations of frequently detected elements for agricultural soils of Missouri--continued

| Sample          | Li ppm | Mg % | Mn ppm | Na % | Nb ppm | Nd ppm | Ni ppm | P % | Pb ppm | Sc ppm | Se ppm |
|-----------------|--------|------|--------|------|--------|--------|--------|-----|--------|--------|--------|
| Sullivan County |        |      |        |      |        |        |        |     |        |        |        |
| 146366          | 29     | .37  | 300    | .56  | 10     | 70     | 15     | .04 | 20     | 10     | .4     |
| 146224          | 24     | .25  | 700    | .56  | <10    | 70     | 15     | .09 | 30     | 7      | .4     |
| 146022          | 24     | .25  | 200    | .42  | <10    | 150    | 15     | .09 | 15     | 10     | .2     |
| 146094          | 32     | .52  | 1,000  | .72  | <10    | 70     | 20     | .03 | 30     | 10     | .5     |
| 145702          | 27     | .41  | 1,000  | .65  | <10    | <70    | 15     | .06 | 30     | 10     | .9     |
| 145808          | 25     | .33  | 200    | .64  | <10    | 70     | 30     | .04 | 15     | 10     | .2     |
| 145835          | 24     | .34  | 500    | .62  | <10    | <70    | 15     | .14 | 30     | 7      | .3     |
| 145995          | 19     | .17  | 1,000  | .61  | <10    | <70    | 15     | .09 | 20     | 7      | <.1    |
| 145520          | 22     | .24  | 500    | .50  | <10    | <70    | 15     | .08 | 15     | 7      | .4     |
| 146487          | 22     | .20  | 200    | .45  | <10    | <70    | 15     | .04 | 15     | 7      | .5     |
| Taney County    |        |      |        |      |        |        |        |     |        |        |        |
| 145588          | 12     | .05  | 700    | .15  | <10    | N      | 5      | .04 | 15     | <5     | .3     |
| 146408          | 19     | .12  | 1,500  | .24  | <10    | 70     | 7      | .04 | 15     | 5      | .4     |
| 146539          | 22     | .27  | 1,000  | .19  | <10    | 70     | 20     | .09 | 30     | 7      | .4     |
| 145667          | 11     | .07  | 1,500  | .16  | <10    | <70    | 7      | .08 | 15     | <5     | .3     |
| 146126          | 17     | .25  | 1,000  | .19  | <10    | 70     | 7      | .04 | 15     | 5      | <.1    |
| 145586          | 19     | .10  | 1,500  | .23  | 10     | <70    | 7      | .04 | 30     | 5      | .4     |
| 146117          | 18     | .15  | 1,500  | .22  | <10    | 70     | 7      | .04 | 30     | 7      | .2     |
| 146046          | 27     | .41  | 1,500  | .20  | <10    | 70     | 30     | .09 | 20     | 7      | <.1    |
| 146565          | 22     | .19  | 1,000  | .26  | <10    | <70    | 7      | .04 | 20     | 7      | .4     |
| 145829          | 19     | .22  | 1,500  | .15  | 10     | <70    | 10     | .08 | 20     | 7      | <.1    |
| Texas County    |        |      |        |      |        |        |        |     |        |        |        |
| 146230          | 18     | .09  | 1,000  | .13  | 10     | <70    | 7      | .04 | 30     | <5     | .2     |
| 145624          | 15     | .12  | 1,000  | .13  | <10    | <70    | 7      | .03 | 15     | 7      | .4     |
| 146399          | 18     | .08  | 70     | .10  | <10    | N      | 7      | .03 | 10     | 5      | .2     |
| 146573          | 20     | .11  | 300    | .16  | <10    | <70    | 15     | .01 | 15     | 7      | .4     |
| 145935          | 25     | .24  | 1,500  | .20  | 10     | <70    | 20     | .04 | 50     | 7      | .3     |
| 146501          | 20     | .12  | 300    | .20  | <10    | <70    | 5      | .02 | 15     | 7      | .4     |
| 145997          | 25     | .21  | 1,000  | .38  | 15     | 70     | 15     | .04 | 30     | 7      | <.1    |
| 146330          | 24     | .27  | 300    | .17  | 10     | 70     | 7      | .04 | 20     | 7      | .2     |
| 146056          | 18     | .11  | 300    | .24  | 15     | <70    | 7      | .02 | 15     | 5      | <.1    |
| 146066          | 22     | .19  | 500    | .25  | 10     | 70     | 15     | .03 | 20     | 7      | <.1    |
| Vernon County   |        |      |        |      |        |        |        |     |        |        |        |
| 145633          | 27     | .21  | 300    | .41  | <10    | 70     | 7      | .13 | 30     | 7      | .2     |
| 146394          | 19     | .17  | 500    | .22  | <10    | <70    | 7      | .09 | 15     | 5      | .3     |
| 145907          | 18     | .16  | 500    | .32  | <10    | <70    | 7      | .04 | 20     | 7      | <.1    |
| 146562          | 26     | .17  | 300    | .44  | <10    | 70     | 10     | .03 | 15     | 7      | .4     |
| 145969          | 19     | .18  | 700    | .46  | 10     | 70     | 7      | .09 | 20     | 7      | <.1    |
| 146161          | 31     | .29  | 500    | .44  | <10    | 70     | 20     | .09 | 20     | 15     | 1.3    |
| 146239          | 24     | .20  | 300    | .63  | 10     | 70     | 7      | .04 | 20     | 7      | .9     |
| 146447          | 22     | .17  | 300    | .23  | <10    | <70    | 10     | .04 | 15     | 7      | .4     |
| 145773          | 19     | .19  | 700    | .54  | 10     | 70     | 15     | .06 | 30     | 10     | .1     |
| 145528          | 22     | .22  | 700    | .70  | 10     | 70     | 10     | .04 | 20     | 7      | .8     |

Table 3.--Locations and concentrations of frequently detected elements for agricultural soils of Missouri--continued

| Sample          | Si % | Sr ppm | Th ppm | Ti % | U ppm | V ppm | Y ppm | Yb ppm | Zn ppm | Zr ppm |
|-----------------|------|--------|--------|------|-------|-------|-------|--------|--------|--------|
| Sullivan County |      |        |        |      |       |       |       |        |        |        |
| 146366          | 34   | 150    | 9.24   | .30  | 3.22  | 150   | 30    | 3.0    | 45     | 200    |
| 146224          | 35   | 100    | --     | .30  | --    | 70    | 70    | 7.0    | 39     | 300    |
| 146022          | 32   | 100    | --     | .30  | --    | 70    | 30    | 3.0    | 40     | 150    |
| 146094          | 33   | 150    | --     | .30  | --    | 150   | 30    | 3.0    | 67     | 300    |
| 145702          | 32   | 150    | --     | .30  | --    | 100   | 30    | 3.0    | 70     | 200    |
| 145808          | 36   | 150    | --     | .30  | --    | 70    | 30    | 3.0    | 54     | 200    |
| 145835          | 35   | 150    | 8.24   | .30  | 4.09  | 70    | 30    | 3.0    | 92     | 300    |
| 145995          | 35   | 100    | --     | .30  | --    | 50    | 30    | 3.0    | 36     | 200    |
| 145520          | 35   | 150    | --     | .30  | --    | 70    | 30    | 3.0    | 41     | 200    |
| 146487          | 35   | 70     | --     | .30  | --    | 70    | 15    | 2.0    | 29     | 200    |
| Taney County    |      |        |        |      |       |       |       |        |        |        |
| 145588          | 42   | 30     | 7.61   | .30  | 2.57  | 30    | 20    | 2.0    | 20     | 300    |
| 146408          | 38   | 70     | --     | .30  | --    | 50    | 30    | 3.0    | 38     | 200    |
| 146539          | 36   | 70     | --     | .30  | --    | 70    | 30    | 3.0    | 130    | 300    |
| 145667          | 41   | 30     | --     | .30  | --    | 30    | 30    | 3.0    | 35     | 200    |
| 146126          | 39   | 70     | --     | .30  | --    | 30    | 30    | 3.0    | 40     | 200    |
| 145586          | 40   | 70     | --     | .50  | --    | 50    | 30    | 3.0    | 31     | 300    |
| 146117          | 38   | 70     | --     | .30  | --    | 50    | 30    | 3.0    | 35     | 150    |
| 146046          | 32   | 70     | 10.74  | .30  | 3.34  | 70    | 50    | 3.0    | 56     | 150    |
| 146565          | 36   | 70     | --     | .30  | --    | 50    | 30    | 3.0    | 50     | 300    |
| 145829          | 39   | 50     | --     | .50  | --    | 50    | 30    | 3.0    | 43     | 500    |
| Texas County    |      |        |        |      |       |       |       |        |        |        |
| 146230          | 38   | 50     | --     | .30  | --    | 30    | 30    | 3.0    | 29     | 300    |
| 145624          | 40   | 50     | --     | .50  | --    | 50    | 30    | 3.0    | 35     | 300    |
| 146399          | 40   | 30     | --     | .20  | --    | 30    | 20    | 2.0    | 32     | 150    |
| 146573          | 40   | 50     | --     | .30  | --    | 30    | 30    | 3.0    | 21     | 300    |
| 145935          | 34   | 70     | --     | .30  | --    | 70    | 30    | 3.0    | 32     | 200    |
| 146501          | 40   | 70     | 9.09   | .30  | 3.97  | 50    | 50    | 3.0    | 23     | 300    |
| 145997          | 34   | 70     | --     | .50  | --    | 70    | 30    | 3.0    | 34     | 500    |
| 146330          | 38   | 70     | 10.89  | .30  | 3.82  | 100   | 30    | 3.0    | 37     | 300    |
| 146056          | 38   | 70     | --     | .30  | --    | 30    | 30    | 3.0    | 21     | 500    |
| 146066          | 37   | 70     | --     | .50  | --    | 70    | 30    | 3.0    | 30     | 500    |
| Vernon County   |      |        |        |      |       |       |       |        |        |        |
| 145633          | 35   | 70     | --     | .50  | --    | 70    | 50    | 5.0    | 113    | 500    |
| 146394          | 38   | 30     | 6.96   | .20  | 2.73  | 30    | 15    | 2.0    | 33     | 150    |
| 145907          | 35   | 70     | 7.59   | .30  | 3.47  | 70    | 30    | 3.0    | 51     | 300    |
| 146562          | 36   | 70     | --     | .30  | --    | 50    | 30    | 3.0    | 31     | 500    |
| 145969          | 35   | 150    | --     | .50  | --    | 70    | 30    | 3.0    | 35     | 700    |
| 146161          | 33   | 300    | --     | .30  | --    | 100   | 30    | 3.0    | 59     | 300    |
| 146239          | 37   | 150    | --     | .30  | --    | 70    | 70    | 7.0    | 39     | 300    |
| 146447          | 39   | 70     | --     | .30  | --    | 70    | 30    | 3.0    | 43     | 500    |
| 145773          | 38   | 100    | --     | .50  | --    | 100   | 30    | 3.0    | 38     | 300    |
| 145528          | 36   | 150    | --     | .30  | --    | 70    | 30    | 5.0    | 45     | 300    |

Table 3.--Locations and concentrations of frequently detected elements for agricultural soils of Missouri--continued

| Sample            | Latitude | Longitude | Al % | As ppm | B ppm | Ba ppm | Be ppm | C %  | C org. % | C crb. % | Ca % |
|-------------------|----------|-----------|------|--------|-------|--------|--------|------|----------|----------|------|
| Warren County     |          |           |      |        |       |        |        |      |          |          |      |
| 146533            | 38 52 58 | 91 13 1   | 3    | 4.9    | 30    | 500    | <1.0   | .87  | .9       | .01      | .4   |
| 145824            | 38 43 58 | 91 21 57  | 6    | 9.5    | 50    | 700    | 1.0    | 1.23 | 1.2      | <.01     | .7   |
| 146528            | 38 48 0  | 91 13 58  | 4    | 8.3    | 20    | 500    | <1.0   | 1.25 | 1.2      | .08      | .4   |
| 145578            | 38 43 1  | 91 19 1   | 4    | 7.1    | 50    | 1,000  | N      | .95  | .9       | .08      | .5   |
| 145899            | 38 49 58 | 91 6 0    | 4    | 15.0   | 30    | 700    | <1.0   | 1.09 | 1.1      | <.01     | .4   |
| 146145            | 38 43 30 | 91 9 0    | 5    | 7.8    | 30    | 700    | 1.0    | .79  | .8       | .02      | .4   |
| 145427            | 38 40 58 | 91 6 0    | 5    | 5.5    | 30    | 700    | <1.0   | .70  | .5       | .18      | .4   |
| 145809            | 38 49 58 | 90 59 45  | 4    | 14.0   | 30    | 700    | <1.0   | .82  | .8       | .06      | .3   |
| 145774            | 38 46 1  | 90 59 31  | 3    | 11.0   | 30    | 500    | N      | 1.41 | 1.4      | <.01     | .3   |
| 145492            | 38 40 58 | 91 1 58   | 5    | 15.0   | 30    | 700    | <1.0   | 1.06 | 1.0      | .11      | .4   |
| Washington County |          |           |      |        |       |        |        |      |          |          |      |
| 146540            | 37 58 1  | 90 46 1   | 4    | 11.0   | 30    | 500    | <1.0   | .81  | .8       | .04      | .1   |
| 146015            | 38 0 0   | 90 49 1   | 4    | 10.0   | 30    | 700    | 1.0    | .83  | .8       | .01      | .2   |
| 146593            | 37 46 58 | 90 52 58  | 4    | 11.0   | 30    | 700    | 1.0    | 1.44 | 1.3      | .06      | .2   |
| 145473            | 37 46 1  | 90 43 1   | 5    | 13.0   | 50    | 700    | 1.0    | 1.00 | .8       | .22      | .2   |
| 145924            | 37 48 0  | 91 1 58   | 4    | 7.3    | 30    | 700    | <1.0   | 1.26 | 1.2      | .04      | .2   |
| 145745            | 38 1 1   | 90 52 58  | 4    | 8.0    | 30    | 700    | <1.0   | .79  | .8       | .02      | .2   |
| 145431            | 37 57 0  | 91 4 58   | 5    | 2.9    | 20    | 1,000  | 1.5    | 2.70 | 2.6      | .11      | .5   |
| 145451            | 38 7 1   | 91 1 58   | 4    | 5.5    | 30    | 500    | <1.0   | 1.31 | 1.2      | .09      | .4   |
| 146389            | 38 9 0   | 90 52 58  | 5    | 8.6    | 30    | 500    | <1.0   | .84  | .8       | .04      | .1   |
| 146307            | 37 52 30 | 90 56 31  | 4    | 6.8    | 30    | 300    | N      | 1.35 | 1.4      | <.01     | .1   |
| Wayne County      |          |           |      |        |       |        |        |      |          |          |      |
| 145432            | 37 13 1  | 90 19 1   | 3    | 5.4    | 20    | 500    | 1.0    | .78  | .7       | .09      | .1   |
| 145762            | 37 7 30  | 90 16 58  | 3    | 8.8    | 30    | 500    | N      | 1.20 | 1.2      | .04      | .1   |
| 146002            | 37 10 58 | 90 38 31  | 3    | 7.8    | 30    | 700    | 1.0    | .90  | .9       | .03      | .1   |
| 146469            | 37 3 28  | 90 35 31  | 3    | 6.6    | 30    | 500    | <1.0   | .83  | .8       | .05      | .2   |
| 146208            | 37 16 58 | 90 30 0   | 3    | 9.9    | 30    | 500    | <1.0   | 1.93 | 1.9      | .03      | .1   |
| 145417            | 37 4 58  | 90 7 58   | 4    | 5.8    | 30    | 500    | 1.0    | .82  | .8       | .07      | .4   |
| 145983            | 37 12 0  | 90 28 30  | 3    | 5.4    | 30    | 700    | 1.0    | 1.88 | 1.8      | .05      | .2   |
| 146333            | 36 58 30 | 90 34 1   | 2    | 6.2    | 50    | 300    | N      | .78  | .7       | .04      | .1   |
| 145730            | 37 8 31  | 90 40 1   | 3    | 7.9    | 30    | 700    | <1.0   | 1.03 | 1.0      | .04      | .1   |
| 146027            | 37 0 0   | 90 29 31  | 3    | 11.0   | 30    | 500    | 1.0    | .89  | .9       | .02      | .1   |
| Webster County    |          |           |      |        |       |        |        |      |          |          |      |
| 146515            | 37 23 31 | 93 0 43   | 2    | 4.7    | 20    | 200    | N      | .70  | .7       | <.01     | .1   |
| 145444            | 37 22 58 | 92 53 31  | 3    | 7.5    | 30    | 500    | N      | .79  | .6       | .15      | .1   |
| 146601            | 37 20 31 | 92 53 31  | 4    | 9.1    | 20    | 500    | N      | .96  | .9       | .02      | .3   |
| 145602            | 37 19 1  | 92 55 58  | 3    | 8.3    | 50    | 700    | 1.0    | 1.08 | .9       | .16      | .3   |
| 146419            | 37 16 1  | 92 58 1   | 4    | 6.5    | 30    | 500    | 1.0    | .80  | .8       | .03      | .1   |
| 146328            | 37 14 13 | 92 55 1   | 3    | 8.4    | 50    | 700    | <1.0   | 1.32 | 1.3      | .03      | .1   |
| 146132            | 37 10 58 | 93 3 0    | 3    | 7.4    | 30    | 700    | <1.0   | 1.08 | 1.1      | .02      | <.1  |
| 146557            | 37 6 43  | 93 3 28   | 3    | 11.0   | 30    | 500    | <1.0   | 1.66 | 1.6      | .02      | .1   |
| 145615            | 37 10 30 | 92 45 0   | 3    | 7.1    | 30    | 500    | <1.0   | 1.05 | 1.0      | .01      | .1   |
| 146047            | 37 8 45  | 92 46 58  | 3    | 8.7    | 30    | 500    | <1.0   | 1.05 | 1.0      | .03      | .2   |



Table 3.--Locations and concentrations of frequently detected elements for agricultural soils of Missouri--continued

| Sample            | Ce ppm | Co ppm | Cr ppm | Cu ppm | F%   | Fe % | Ga ppm | Hg ppm | I ppm | K % | La ppm |
|-------------------|--------|--------|--------|--------|------|------|--------|--------|-------|-----|--------|
| Warren County     |        |        |        |        |      |      |        |        |       |     |        |
| 146533            | <150   | 7      | 30     | 10     | .020 | 1.2  | 7      | <.01   | --    | 1.3 | 50     |
| 145824            | <150   | 10     | 70     | 30     | .047 | 3.0  | 20     | .04    | --    | 2.2 | 70     |
| 146528            | <150   | 7      | 30     | 7      | .027 | 1.7  | 10     | .01    | --    | 1.7 | 30     |
| 145578            | <150   | 10     | 50     | 10     | .096 | 2.0  | 15     | .02    | --    | 1.4 | 50     |
| 145899            | <150   | 15     | 50     | 10     | .033 | 2.9  | 15     | .03    | --    | 1.4 | 50     |
| 146145            | <150   | 15     | 50     | 50     | .040 | 2.4  | 15     | .06    | --    | 1.4 | 30     |
| 145427            | <150   | 7      | 30     | 10     | .120 | 1.3  | 15     | .05    | 2.49  | 1.7 | 30     |
| 145809            | <150   | 15     | 70     | 15     | .021 | 2.7  | 15     | .03    | --    | 1.2 | 50     |
| 145774            | <150   | 15     | 70     | 20     | .015 | 2.2  | 15     | .04    | --    | 1.1 | 30     |
| 145492            | <150   | 10     | 70     | 7      | .020 | 2.0  | 10     | .06    | --    | 1.5 | 30     |
| Washington County |        |        |        |        |      |      |        |        |       |     |        |
| 146540            | <150   | 15     | 70     | 7      | .027 | 1.9  | 10     | .02    | --    | 1.3 | 30     |
| 146015            | 150    | 15     | 70     | 20     | .027 | 2.4  | 15     | .03    | --    | 1.8 | 50     |
| 146593            | 150    | 15     | 50     | 15     | .020 | 1.9  | 10     | .10    | --    | 2.0 | 50     |
| 145473            | 150    | 15     | 70     | 15     | .021 | 2.7  | 15     | .06    | 8.39  | 1.9 | 70     |
| 145924            | <150   | 7      | 70     | 10     | .022 | 1.8  | 15     | .04    | --    | 1.6 | 50     |
| 145745            | 150    | 15     | 50     | 10     | .015 | 1.9  | 10     | .03    | --    | 1.7 | 50     |
| 145431            | <150   | 15     | 50     | 20     | .044 | 2.1  | 15     | .09    | --    | 1.3 | 50     |
| 145451            | <150   | 7      | 30     | 15     | .080 | 1.5  | 7      | .04    | --    | 1.4 | 50     |
| 146389            | <150   | 5      | 70     | 10     | .010 | 2.0  | 10     | .04    | --    | 1.7 | 30     |
| 146507            | <150   | 3      | 50     | 7      | .023 | 1.4  | 15     | .01    | --    | 1.3 | 30     |
| Wayne County      |        |        |        |        |      |      |        |        |       |     |        |
| 145432            | <150   | 7      | 30     | 10     | .052 | 1.4  | 7      | .05    | --    | 1.0 | 50     |
| 145762            | <150   | 7      | 30     | 7      | .012 | 1.7  | <5     | .03    | --    | 1.2 | 30     |
| 146002            | 150    | 15     | 30     | 70     | .015 | 1.7  | 7      | .05    | --    | 1.1 | 50     |
| 146469            | <150   | 7      | 30     | 10     | .005 | 1.3  | 7      | .02    | --    | 1.2 | 50     |
| 146208            | 150    | 15     | 70     | 15     | .011 | 1.7  | 10     | .06    | --    | 1.0 | 70     |
| 145417            | <150   | 10     | 50     | 10     | .130 | 1.4  | 10     | .06    | --    | 1.4 | 50     |
| 145983            | 150    | 15     | 70     | 10     | .012 | 1.5  | 10     | .09    | --    | 1.2 | 50     |
| 146333            | 150    | 15     | 30     | 20     | .015 | 1.3  | 7      | .04    | --    | .9  | 30     |
| 145730            | <150   | 10     | 30     | 15     | .019 | 2.2  | 7      | .03    | 6.50  | 1.3 | 30     |
| 146027            | 150    | 15     | 50     | 30     | .012 | 2.0  | 7      | .04    | --    | 1.0 | 70     |
| Webster County    |        |        |        |        |      |      |        |        |       |     |        |
| 146515            | <150   | 5      | 20     | 7      | .012 | 1.0  | <5     | .02    | --    | .7  | 30     |
| 145444            | <150   | 10     | 70     | 10     | .016 | 1.6  | 7      | .04    | --    | 1.2 | 30     |
| 146601            | <150   | 7      | 30     | 10     | .044 | 1.9  | 10     | .03    | --    | 1.2 | 30     |
| 145602            | <150   | 15     | 50     | 15     | .025 | 1.8  | 7      | .02    | --    | 1.2 | 50     |
| 146419            | <150   | 15     | 50     | 10     | .024 | 1.6  | 7      | .03    | --    | 1.4 | 50     |
| 146328            | <150   | 7      | 70     | 30     | .013 | 1.7  | 10     | .04    | --    | 1.1 | 50     |
| 146132            | 150    | 10     | 50     | 7      | .013 | 1.7  | 10     | .03    | 3.34  | 1.2 | 50     |
| 146557            | <150   | 15     | 50     | 7      | .019 | 2.1  | 7      | .04    | --    | 1.2 | 30     |
| 145615            | 150    | 15     | 50     | 15     | .012 | 1.7  | 10     | .03    | --    | 1.3 | 50     |
| 146047            | <150   | 15     | 50     | 7      | .020 | 2.2  | 10     | .22    | --    | 1.1 | 30     |

Table 3.--Locations and concentrations of frequently detected elements for agricultural soils of Missouri--continued

| Sample            | Li ppm | Mg % | Mn ppm | Na % | Nb ppm | Nd ppm | Ni ppm | P %  | Pb ppm | Sc ppm | Se ppm |
|-------------------|--------|------|--------|------|--------|--------|--------|------|--------|--------|--------|
| Warren County     |        |      |        |      |        |        |        |      |        |        |        |
| 146533            | 18     | .16  | 1,000  | .59  | <10    | 70     | 15     | .04  | 15     | 7      | .1     |
| 145824            | 32     | .71  | 700    | .65  | <10    | 70     | 50     | .07  | 20     | 15     | .2     |
| 146528            | 24     | .28  | 300    | .62  | <10    | <70    | 15     | .04  | 15     | 7      | .6     |
| 145578            | 19     | .30  | 700    | .92  | <10    | <70    | 15     | .06  | 20     | 7      | .3     |
| 145899            | 23     | .30  | 1,500  | .65  | 10     | 70     | 20     | .09  | 30     | 10     | <.1    |
| 146145            | 26     | .34  | 1,500  | .65  | 15     | <70    | 15     | .04  | 30     | 7      | <.1    |
| 145427            | 16     | .24  | 1,000  | .79  | <10    | 70     | 15     | .07  | 15     | 7      | .5     |
| 145809            | 24     | .28  | 1,000  | .60  | 10     | 70     | 15     | .03  | 30     | 7      | .3     |
| 145774            | 20     | .20  | 1,000  | .59  | <10    | <70    | 10     | .06  | 30     | 7      | .3     |
| 145492            | 21     | .24  | 1,500  | .68  | <10    | 70     | 10     | .05  | 30     | 7      | .6     |
| Washington County |        |      |        |      |        |        |        |      |        |        |        |
| 146540            | 22     | .19  | 700    | .47  | 10     | 70     | 10     | .01  | 70     | 7      | .7     |
| 146015            | 26     | .34  | 1,000  | .45  | 10     | 70     | 20     | .04  | 50     | 10     | <.1    |
| 146593            | 22     | .22  | 2,000  | .50  | <10    | 70     | 15     | .04  | 30     | 7      | .7     |
| 145473            | 27     | .28  | 3,000  | .39  | <10    | 70     | 50     | .04  | 50     | 10     | .4     |
| 145924            | 24     | .26  | 700    | .38  | 15     | 70     | 10     | .04  | 20     | 7      | <.1    |
| 145745            | 23     | .23  | 1,000  | .49  | <10    | 70     | 15     | .06  | 30     | 7      | .7     |
| 145431            | 28     | .39  | 1,500  | .28  | <10    | 70     | 20     | .10  | 70     | 7      | .6     |
| 145451            | 20     | .21  | 1,000  | .45  | <10    | 70     | 10     | .06  | 15     | 7      | .5     |
| 146389            | 26     | .30  | 150    | .50  | <10    | <70    | 7      | .02  | 15     | 7      | .3     |
| 146507            | 22     | .17  | 150    | .42  | <10    | <70    | 7      | .02  | 30     | 7      | .4     |
| Wayne County      |        |      |        |      |        |        |        |      |        |        |        |
| 145432            | 14     | .11  | 1,500  | .25  | <10    | <70    | 15     | .07  | 15     | 5      | .3     |
| 145762            | 21     | .16  | 300    | .31  | <10    | <70    | 7      | .03  | 15     | 7      | <.1    |
| 146002            | 18     | .14  | 1,500  | .27  | 15     | 70     | 20     | .04  | 30     | 7      | <.1    |
| 146469            | 17     | .17  | 1,500  | .28  | <10    | 70     | 15     | .09  | 15     | 7      | .4     |
| 146208            | 17     | .19  | 1,500  | .23  | 10     | 70     | 10     | .04  | 20     | 7      | .2     |
| 145417            | 18     | .21  | 1,500  | .46  | <10    | 70     | 15     | .05  | 20     | 7      | .5     |
| 145983            | 18     | .15  | 1,500  | .23  | 10     | 70     | 15     | .09  | 20     | 7      | <.1    |
| 146333            | 17     | .16  | 1,500  | .20  | 10     | 70     | 20     | .09  | 20     | 7      | <.1    |
| 145730            | 20     | .21  | 1,500  | .29  | <10    | 70     | 15     | .03  | 15     | 7      | .6     |
| 146027            | 16     | .15  | 3,000  | .21  | 10     | 70     | 15     | .09  | 15     | 7      | <.1    |
| Webster County    |        |      |        |      |        |        |        |      |        |        |        |
| 146515            | 13     | .08  | 300    | .21  | <10    | <70    | <5     | .04  | 15     | <5     | .5     |
| 145444            | 21     | .16  | 1,000  | .30  | <10    | <70    | 5      | .06  | 20     | 5      | .4     |
| 146601            | 25     | .22  | 700    | .28  | <10    | <70    | 7      | .04  | 20     | 5      | .7     |
| 145602            | 20     | .16  | 1,500  | .33  | 10     | 70     | 15     | .07  | 20     | 7      | .5     |
| 146419            | 20     | .17  | 1,500  | .27  | 10     | <70    | 10     | .04  | 20     | 7      | .3     |
| 146328            | 23     | .16  | 1,000  | .27  | 15     | 70     | 7      | .03  | 20     | 7      | <.1    |
| 146132            | 22     | .14  | 1,000  | .29  | 10     | 70     | 7      | <.01 | 15     | 7      | .1     |
| 146557            | 25     | .18  | 1,500  | .25  | <10    | 70     | 7      | .04  | 20     | 7      | .4     |
| 145615            | 20     | .15  | 1,500  | .27  | 10     | 70     | 10     | .04  | 30     | 7      | .5     |
| 146047            | 25     | .21  | 700    | .22  | 15     | 70     | 7      | .04  | 20     | 7      | <.1    |

Table 3.--Locations and concentrations of frequently detected elements for agricultural soils of Missouri--continued

| Sample            | Si % | Sr ppm | Th ppm | Ti % | U ppm | V ppm | Y ppm | Yb ppm | Zn ppm | Zr ppm |
|-------------------|------|--------|--------|------|-------|-------|-------|--------|--------|--------|
| Warren County     |      |        |        |      |       |       |       |        |        |        |
| 146533            | 39   | 150    | 9.96   | .30  | 3.72  | 50    | 50    | 3.0    | 32     | 500    |
| 145824            | 32   | 200    | --     | .30  | --    | 150   | 30    | 3.0    | 94     | 200    |
| 146528            | 36   | 100    | --     | .30  | --    | 50    | 30    | 3.0    | 53     | 300    |
| 145578            | 37   | 150    | --     | .30  | --    | 70    | 30    | 3.0    | 49     | 300    |
| 145899            | 33   | 150    | 11.44  | .30  | 4.13  | 100   | 30    | 3.0    | 44     | 300    |
| 146145            | 36   | 100    | --     | .30  | --    | 70    | 30    | 3.0    | 49     | 500    |
| 145427            | 38   | 150    | --     | .30  | --    | 70    | 30    | 2.0    | 38     | 500    |
| 145809            | 37   | 150    | --     | .50  | --    | 100   | 30    | 3.0    | 42     | 500    |
| 145774            | 38   | 100    | --     | .50  | --    | 70    | 30    | 3.0    | 40     | 300    |
| 145492            | 36   | 150    | --     | .30  | --    | 70    | 50    | 5.0    | 46     | 500    |
| Washington County |      |        |        |      |       |       |       |        |        |        |
| 146540            | 38   | 100    | --     | .30  | --    | 70    | 50    | 3.0    | 54     | 500    |
| 146015            | 32   | 150    | --     | .30  | --    | 100   | 30    | 3.0    | 87     | 300    |
| 146593            | 37   | 100    | --     | .30  | --    | 70    | 30    | 3.0    | 33     | 300    |
| 145473            | 35   | 100    | 8.17   | .30  | 4.84  | 70    | 50    | 5.0    | 52     | 300    |
| 145924            | 35   | 70     | --     | .50  | 11.05 | 70    | 30    | 3.0    | 45     | 300    |
| 145745            | 38   | 70     | --     | .30  | --    | 70    | 30    | 3.0    | 75     | 300    |
| 145431            | 34   | 100    | --     | .30  | --    | 70    | 30    | 2.0    | 214    | 200    |
| 145451            | 37   | 100    | --     | .50  | --    | 50    | 30    | 3.0    | 42     | 500    |
| 146389            | 36   | 100    | --     | .30  | --    | 70    | 30    | 3.0    | 50     | 150    |
| 146507            | 37   | 70     | --     | .30  | --    | 50    | 30    | 3.0    | 37     | 300    |
| Wayne County      |      |        |        |      |       |       |       |        |        |        |
| 145432            | 40   | 50     | --     | .30  | --    | 30    | 30    | 2.0    | 29     | 300    |
| 145762            | 39   | 70     | --     | .30  | --    | 50    | 30    | 3.0    | 31     | 300    |
| 146002            | 37   | 70     | --     | .30  | --    | 50    | 50    | 5.0    | 40     | 500    |
| 146469            | 39   | 70     | --     | .30  | --    | 30    | 50    | 3.0    | 34     | 500    |
| 146208            | 38   | 70     | --     | .50  | --    | 70    | 30    | 3.0    | 35     | 500    |
| 145417            | 38   | 70     | 5.40   | .50  | 4.37  | 50    | 50    | 3.0    | 43     | 500    |
| 145983            | 36   | 100    | --     | .30  | --    | 70    | 30    | 3.0    | 39     | 300    |
| 146333            | 40   | 70     | --     | .30  | --    | 70    | 30    | 3.0    | 44     | 300    |
| 145730            | 37   | 70     | --     | .30  | --    | 70    | 50    | 3.0    | 44     | 500    |
| 146027            | 37   | 70     | --     | .30  | 4.64  | 50    | 50    | 5.0    | 46     | 300    |
| Webster County    |      |        |        |      |       |       |       |        |        |        |
| 146515            | 41   | 30     | --     | .20  | --    | 20    | 20    | 2.0    | 18     | 300    |
| 145444            | 36   | 70     | --     | .70  | --    | 70    | 50    | 3.0    | 30     | 500    |
| 146601            | 38   | 70     | --     | .30  | --    | 50    | 20    | 3.0    | 33     | 300    |
| 145602            | 37   | 70     | 11.75  | .50  | 4.51  | 70    | 30    | 3.0    | 43     | 700    |
| 146419            | 38   | 70     | --     | .30  | --    | 50    | 30    | 3.0    | 31     | 300    |
| 146328            | 39   | 100    | 7.35   | .50  | 4.50  | 70    | 30    | 5.0    | 33     | 500    |
| 146132            | 37   | 70     | --     | .70  | --    | 70    | 30    | 3.0    | 30     | 500    |
| 146557            | 37   | 70     | --     | .50  | --    | 50    | 30    | 3.0    | 34     | 300    |
| 145615            | 39   | 70     | --     | .50  | --    | 70    | 50    | 5.0    | 33     | 300    |
| 146047            | 35   | 70     | --     | .30  | --    | 70    | 30    | 3.0    | 34     | 300    |

Table 3.--Locations and concentrations of frequently detected elements for agricultural soils of Missouri--continued

| Sample        | Latitude | Longitude | Al % | As ppm | B ppm | Ba ppm | Be ppm | C %  | C org. % | C crb. % | Ca % |
|---------------|----------|-----------|------|--------|-------|--------|--------|------|----------|----------|------|
| Worth County  |          |           |      |        |       |        |        |      |          |          |      |
| 145807        | 40 24 0  | 94 25 58  | 5    | 7.4    | 30    | 1,000  | 1.5    | 1.51 | 1.5      | .04      | .6   |
| 146054        | 40 25 58 | 94 28 1   | 5    | 11.0   | 30    | 500    | 1.0    | 1.08 | 1.0      | .04      | .6   |
| 145699        | 40 25 30 | 94 32 31  | 4    | 9.2    | 30    | 700    | <1.0   | 1.06 | .9       | .17      | .9   |
| 145652        | 40 27 28 | 94 33 43  | 4    | 8.8    | 30    | 700    | <1.0   | 2.30 | 2.3      | .04      | .5   |
| 145650        | 40 31 58 | 94 37 1   | 5    | 12.0   | 30    | 1,000  | 1.0    | 2.48 | 2.4      | .08      | .7   |
| 145843        | 40 30 28 | 94 26 45  | 5    | 10.0   | 30    | 700    | 1.0    | 2.83 | 2.7      | .11      | .6   |
| 145505        | 40 27 0  | 94 22 30  | 5    | 9.4    | 30    | 500    | 1.0    | 2.12 | 2.1      | .06      | .6   |
| 146000        | 40 33 43 | 94 17 31  | 4    | 7.8    | 30    | 500    | 1.0    | 1.80 | 1.8      | .02      | .6   |
| 146081        | 40 31 1  | 94 15 0   | 4    | 6.5    | 30    | 700    | 1.5    | 1.64 | 1.6      | .03      | .4   |
| 146174        | 40 26 45 | 94 16 1   | 5    | 14.0   | 30    | 700    | 1.5    | 2.43 | 2.4      | .01      | .6   |
| Wright County |          |           |      |        |       |        |        |      |          |          |      |
| 145686        | 37 24 14 | 92 37 1   | 3    | 6.1    | 30    | 500    | N      | 1.07 | 1.0      | .08      | .2   |
| 145421        | 37 17 31 | 92 35 31  | 4    | 12.0   | 30    | 500    | <1.0   | 1.55 | 1.4      | .17      | .2   |
| 145609        | 37 7 58  | 92 39 28  | 2    | 6.8    | 30    | 700    | N      | 1.19 | 1.1      | .08      | .1   |
| 146441        | 37 6 0   | 92 37 1   | 3    | 5.3    | 30    | 300    | N      | 1.74 | 1.7      | <.01     | .3   |
| 146412        | 37 16 58 | 92 31 58  | 4    | 14.0   | 20    | 500    | <1.0   | 1.69 | 1.7      | .01      | .2   |
| 145682        | 37 25 1  | 92 23 31  | 4    | 6.3    | 30    | 500    | 1.0    | .79  | .7       | .07      | .2   |
| 145598        | 37 19 58 | 92 27 0   | 3    | 8.7    | 30    | 700    | <1.0   | 1.29 | 1.3      | .03      | .1   |
| 146107        | 37 9 0   | 92 33 28  | 3    | 11.0   | 50    | 700    | 1.0    | 1.56 | 1.6      | <.01     | .1   |
| 145984        | 37 22 1  | 92 22 30  | 3    | 5.4    | 50    | 700    | 1.0    | 2.93 | 2.9      | .03      | .3   |
| 146033        | 37 10 58 | 92 16 30  | 3    | 8.5    | 30    | 500    | <1.0   | 1.15 | 1.1      | .02      | .1   |

Table 3.--Locations and concentrations of frequently detected elements for agricultural soils of Missouri--continued

| Sample        | Ce ppm | Co ppm | Cr ppm | Cu ppm | F%   | Fe % | Ga ppm | Hg ppm | I ppm | K % | La ppm |
|---------------|--------|--------|--------|--------|------|------|--------|--------|-------|-----|--------|
| Worth County  |        |        |        |        |      |      |        |        |       |     |        |
| 145807        | 150    | 7      | 70     | 20     | .025 | 2.4  | 15     | .04    | --    | 1.8 | 70     |
| 146054        | 150    | 15     | 70     | 20     | .036 | 3.0  | 20     | .04    | --    | 1.4 | 50     |
| 145699        | 150    | 7      | 50     | 10     | .027 | 1.7  | 7      | .04    | --    | 1.5 | 30     |
| 145652        | <150   | 7      | 50     | 10     | .021 | 1.5  | 10     | .07    | --    | 1.4 | 30     |
| 145650        | 150    | 7      | 70     | 15     | .038 | 2.5  | 15     | .05    | --    | 1.7 | 70     |
| 145843        | 150    | 7      | 70     | 20     | .024 | 2.7  | 15     | .04    | --    | 1.4 | 50     |
| 145505        | <150   | 10     | 50     | 15     | .076 | 2.6  | 15     | .05    | --    | 1.4 | 30     |
| 146000        | N      | 10     | 70     | 15     | .025 | 2.5  | 15     | .04    | --    | 1.4 | 30     |
| 146081        | 150    | 10     | 30     | 15     | .013 | 1.5  | 10     | .05    | 2.28  | 1.2 | 50     |
| 146174        | 150    | 15     | 70     | 20     | .034 | 2.8  | 15     | .04    | --    | 1.7 | 50     |
| Wright County |        |        |        |        |      |      |        |        |       |     |        |
| 145686        | <150   | 10     | 30     | 7      | .064 | 1.5  | 7      | .05    | --    | 1.2 | 30     |
| 145421        | <150   | 10     | 70     | 20     | .072 | 2.4  | 10     | .09    | --    | 1.2 | 50     |
| 145609        | <150   | 15     | 30     | 7      | .014 | 1.3  | 7      | .03    | --    | 1.4 | 30     |
| 146441        | <150   | 5      | 30     | 7      | .004 | 1.2  | 5      | .04    | --    | 1.0 | 30     |
| 146412        | <150   | 7      | 30     | 10     | .032 | 2.7  | 10     | .04    | 4.17  | 1.2 | 30     |
| 145682        | 150    | 20     | 70     | 7      | .015 | 1.7  | 7      | .07    | --    | 1.2 | 30     |
| 145598        | <150   | 15     | 50     | 10     | .059 | 1.8  | 7      | .03    | --    | 1.3 | 50     |
| 146107        | <150   | 15     | 70     | 7      | .014 | 1.8  | 10     | .05    | --    | 1.2 | 30     |
| 145984        | 150    | 15     | 70     | 10     | .018 | 1.7  | 10     | .13    | --    | 1.7 | 50     |
| 146033        | 150    | 15     | 50     | 10     | .640 | 2.0  | 7      | .05    | --    | 1.2 | 30     |



Table 3.--Locations and concentrations of frequently detected elements for agricultural soils of Missouri--continued

| Sample        | Li ppm | Mg % | Mn ppm | Na % | Nb ppm | Nd ppm | Ni ppm | P % | Pb ppm | Sc ppm | Se ppm |
|---------------|--------|------|--------|------|--------|--------|--------|-----|--------|--------|--------|
| Worth County  |        |      |        |      |        |        |        |     |        |        |        |
| 145807        | 28     | .42  | 1,000  | .81  | 10     | 70     | 20     | .06 | 20     | 15     | .5     |
| 146054        | 36     | .39  | 300    | .57  | 10     | 70     | 30     | .04 | 30     | 15     | .4     |
| 145699        | 21     | .36  | 300    | .73  | <10    | 70     | 15     | .07 | 15     | 7      | .5     |
| 145652        | 21     | .21  | 300    | .65  | <10    | <70    | 15     | .05 | 15     | 7      | .7     |
| 145650        | 24     | .40  | 500    | .72  | <10    | 70     | 15     | .04 | 15     | 10     | .7     |
| 145843        | 32     | .35  | 300    | .58  | <10    | 70     | 30     | .08 | 15     | 10     | .6     |
| 145505        | 28     | .35  | 500    | .52  | <10    | 70     | 15     | .08 | 15     | 7      | .6     |
| 146000        | 25     | .38  | 700    | .52  | <10    | 70     | 15     | .09 | 30     | 7      | .1     |
| 146081        | 22     | .19  | 1,000  | .63  | <10    | 70     | 15     | .09 | 15     | 7      | .4     |
| 146174        | 30     | .49  | 1,000  | .72  | <10    | 70     | 20     | .13 | 30     | 15     | .4     |
| Wright County |        |      |        |      |        |        |        |     |        |        |        |
| 145686        | 21     | .16  | 1,000  | .28  | 10     | <70    | 7      | .07 | 15     | 7      | .4     |
| 145421        | 24     | .24  | 700    | .24  | 10     | <70    | 10     | .08 | 20     | 7      | .7     |
| 145609        | 18     | .11  | 1,000  | .26  | <10    | <70    | 7      | .04 | 20     | 5      | .4     |
| 146441        | 18     | .14  | 300    | .22  | <10    | <70    | <5     | .04 | 15     | 5      | .4     |
| 146412        | 25     | .23  | 700    | .26  | <10    | <70    | 5      | .09 | 30     | 7      | .6     |
| 145682        | 22     | .19  | 1,500  | .29  | 10     | 70     | 15     | .07 | 20     | 7      | .5     |
| 145598        | 22     | .16  | 1,500  | .31  | <10    | 70     | 7      | .06 | 20     | 7      | .6     |
| 146107        | 23     | .19  | 700    | .24  | 10     | 70     | 7      | .04 | 30     | 7      | <.1    |
| 145984        | 23     | .27  | 1,500  | .31  | 15     | 70     | 15     | .09 | 30     | 7      | <.1    |
| 146033        | 23     | .18  | 1,000  | .24  | 10     | 70     | 7      | .04 | 15     | 7      | <.1    |

Table 3.--Locations and concentrations of frequently detected elements for agricultural soils of Missouri--continued

| Sample        | Si % | Sr ppm | Th ppm | Ti % | U ppm | V ppm | Y ppm | Yb ppm | Zn ppm | Zr ppm |
|---------------|------|--------|--------|------|-------|-------|-------|--------|--------|--------|
| Worth County  |      |        |        |      |       |       |       |        |        |        |
| 145807        | 35   | 200    | --     | .30  | --    | 100   | 50    | 3.0    | 66     | 200    |
| 146054        | 32   | 150    | --     | .30  | --    | 150   | 30    | 3.0    | 55     | 150    |
| 145699        | 35   | 150    | 7.59   | .30  | 3.09  | 70    | 30    | 3.0    | 42     | 500    |
| 145652        | 35   | 100    | --     | .30  | --    | 70    | 20    | 2.0    | 36     | 200    |
| 145650        | 31   | 200    | --     | .30  | --    | 100   | 30    | 3.0    | 59     | 300    |
| 145843        | 33   | 150    | --     | .30  | --    | 100   | 30    | 3.0    | 57     | 200    |
| 145505        | 32   | 150    | 9.07   | .30  | 2.47  | 100   | 30    | 3.0    | 67     | 200    |
| 146000        | 31   | 150    | --     | .30  | --    | 100   | 30    | 3.0    | 46     | 300    |
| 146081        | 34   | 150    | --     | .30  | --    | 70    | 30    | 3.0    | 37     | 200    |
| 146174        | 33   | 200    | --     | .30  | --    | 100   | 30    | 3.0    | 97     | 200    |
| Wright County |      |        |        |      |       |       |       |        |        |        |
| 145686        | 39   | 70     | --     | .30  | --    | 50    | 30    | 3.0    | 29     | 500    |
| 145421        | 37   | 70     | --     | .50  | --    | 70    | 30    | 3.0    | 57     | 300    |
| 145609        | 39   | 70     | --     | .30  | --    | 50    | 30    | 3.0    | 28     | 300    |
| 146441        | 39   | 70     | --     | .30  | --    | 30    | 20    | 3.0    | 55     | 500    |
| 146412        | 35   | 70     | --     | .30  | --    | 70    | 30    | 3.0    | 55     | 150    |
| 145682        | 38   | 70     | --     | .30  | 4.42  | 70    | 30    | 3.0    | 29     | 500    |
| 145598        | 39   | 70     | --     | .50  | --    | 70    | 30    | 3.0    | 35     | 500    |
| 146107        | 38   | 70     | --     | .50  | 4.92  | 70    | 30    | 3.0    | 40     | 200    |
| 145984        | 33   | 70     | --     | .30  | --    | 70    | 50    | 5.0    | 38     | 500    |
| 146033        | 35   | 70     | --     | .50  | --    | 70    | 30    | 3.0    | 36     | 300    |