

UNITED STATES DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

CHEMICAL ANALYSES OF SAMPLES OF ROCK, MINUS-0.25-MM  
STREAM SEDIMENT, AND NONMAGNETIC HEAVY-MINERAL CONCENTRATE,  
MOKELUMNE WILDERNESS AREA AND ADJACENT RARE II FURTHER  
PLANNING AREAS, CALIFORNIA

by

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OPEN-FILE REPORT 81 - 670

1981

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## INTRODUCTION

Geochemical sampling was conducted in the Mokelumne Wilderness Area and adjacent study areas, Alpine, Amador, Calaveras, and El Dorado Counties, California, during the summers of 1978 and 1979. This report includes a map showing the locations of all sites sampled in this program (plate 1), a tabulation of the lower limits of determination used in the various analytical methods (table 1), a tabulation of chemical analyses for samples of rock, minus-0.25-mm stream sediment, and nonmagnetic heavy-mineral concentrate collected at each sample site (tables 2, 3, and 4, respectively), and summary statistics for the elements listed in tables 2-4 (tables 5-7).

## SAMPLE COLLECTION AND PREPARATION

A set of samples was collected at most sites shown on plate 1; a complete set consisted of a rock sample, a stream-sediment sample, and a bulk stream-sediment sample for later panning. At some sites only one or two of the three sample media were collected. Analyses for a total of 86 rock samples, 115 stream-sediment samples, and 115 bulk-sediment nonmagnetic heavy-mineral-concentrate samples are listed in this report (tables 2-4). The number of samples analyzed for each medium yields an approximate sample density of 1 sample/5.3 km<sup>2</sup> (1 sample/2 mi<sup>2</sup>) for the rock samples and 1 sample/4.0 km<sup>2</sup> (1 sample/1.5 mi<sup>2</sup>) for the other two types of samples.

### Rock samples

All rock samples were collected from outcrops that were considered to be representative of the general area around the plotted site location. Wherever possible a sample was hand cobbled to remove any obviously weathered material. All samples were crushed and pulverized before analysis.

### Minus-0.25-mm stream-sediment samples

The stream-sediment samples were collected from first- (unbranched) and second-order streams as defined on 1:62,500-scale topographic maps. Each sample was composited from active alluvium collected from several locations within a 15-meter radius of the plotted site point. The samples were air dried, and the dry material was sieved through a 0.25-mm (60-mesh) stainless steel screen in an aluminum frame. The minus-0.25-mm (60-mesh) fraction was pulverized and saved for analysis.

### Nonmagnetic heavy-mineral-concentrate samples

The bulk sample of active stream-sediment material was collected and composited in a manner similar to that used for the minus-0.25-mm stream-sediment samples. Each bulk sample was passed through a 2.0-mm (10-mesh) screen to remove the coarsest material. The sediment passing through the screen was wet-panned until most of the quartz, feldspar, organic material, and clay-sized material was removed. The sample was air dried and passed through a 1.0-mm (18-mesh) sieve; the minus-1.0-mm material was saved. Any light material remaining in the concentrate was then removed by allowing the heavier fraction of the sample to settle through bromoform (specific gravity 2.86). The highly magnetic material was next removed with a magnet from that heavy-mineral fraction. The remaining heavy-mineral material was then separated into a magnetic and a nonmagnetic fraction using a Frantz Isodynamic Separator<sup>1</sup> at a setting of 0.6 amperes, with 15° forward and 15° side settings. The resulting nonmagnetic fraction was pulverized in an agate mortar before analysis.

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<sup>1</sup>The use of trade names in this report is for descriptive purposes only and does not constitute endorsement by the U.S. Geological Survey.

## CHEMICAL ANALYSIS

All three types of samples were analyzed for Fe, Mg, Ca, Ti, Mn, Ag, As, Au, B, Ba, Be, Bi, Cd, Co, Cr, Cu, La, Mo, Nb, Ni, Pb, Sb, Sc, Sn, Sr, V, W, Y, Zn, Zr, and Th using a six-step semiquantitative emission spectrographic method (Grimes and Marranzino, 1968). Because of the limited amount of sample material, the nonmagnetic heavy-mineral concentrates were only analyzed spectrographically. The rock and stream-sediment samples were also analyzed for As using a colorimetric method (Ward and others, 1963), for Zn and Sb by atomic absorption spectrometry (Ward and others, 1969; Welsch and Chao, 1975), and for Cd and Bi by a single digestion atomic-absorption spectrometric technique (Viets, 1978). Analysis for all three sample types was done partly in the field and partly in U.S. Geological Survey laboratories in Golden, Colorado.

The spectrographic analytical values are reported as the approximate geometric midpoints (0.15, 0.2, 0.3, 0.5, 0.7, and 1.0 or appropriate powers of ten of these values) of concentration ranges whose respective boundaries are 0.12, 0.18, 0.26, 0.38, 0.56, 0.83, and 1.2 (or appropriate powers of ten of these values). In general, the precision of the spectrographic method is plus or minus one reporting value of the value given by the analyst approximately 83 percent of the time and plus or minus two reporting values of the value given by the analyst 96 percent of the time (Motooka and Grimes, 1976). A reference standard sample was analyzed with each batch of field samples to monitor the quality of the analyses.

For the five elements analyzed by colorimetric or atomic absorption methods, the reporting values vary with the element and with the concentration level for any given element. Precision for these analytical methods is commonly reported as a percent relative standard deviation, and is based on

replicate analyses of samples selected to provide information at different concentration levels. In general, the precision for each method tends to be lowest for those samples containing a given element at or near its lower limit of determination. For the five elements discussed here, the reported ranges of percent relative standard deviations (% RSD) are as follows:

| <u>Element</u> | <u>Range of % RSD</u> | <u>Source of data</u>                       |
|----------------|-----------------------|---|
| As             | 0. -48.9              | Unpublished analyses<br>by R. H. Hill, 1981 |
| Zn             | 3.4-30.2              | Ward and others, 1969, p. 21                |
| Sb             | 3.7-10.7              | Welsch and Chao, 1975                       |
| Cd             | 3.3-18.8              | Viets, 1978                                 |
| Bi             | 1.4- 4.0              | Viets, 1978                                 |

As an example to use in interpreting these ranges, one might consider antimony, whose range is shown as 3.7-10.7% RSD. This range indicates that a reported antimony value listed in table 2 or 3 should be within  $\pm 10.7\%$  (usually much less) of the mean value for that sample. The mean value would be determined by repeating the analysis of that sample five or more times. As was the case for the spectrographic analyses, a reference standard sample was analyzed with each batch of field samples to monitor the quality of the analyses.

#### DESCRIPTION OF TABLES 2-4

Tables 2-4 list the chemical analyses for the samples of rock, minus-0.25-mm stream sediment, and nonmagnetic heavy-mineral concentrate, respectively. For the three sample sets the data are arranged so that column 1 contains the USGS-assigned sample numbers. These numbers coincide with the numbers on the site location map (plate 1). In tables 2-4 rock samples are suffixed by RK, stream-sediment samples by SS, and concentrate

samples by KN. Columns 2 and 3 list the latitudes (north) and longitudes (west) for the sample sites in degrees, minutes, and seconds. Columns in which the element headings (denoted in capital letters) are preceded by an S are emission spectrographic analyses. Columns in which the element headings are preceded by AA are atomic absorption analyses. The last column in tables 2 and 3, is colorimetric determinations for arsenic (CM-AS). The suffix P in the element headings for the elements analyzed by atomic absorption spectrometry is merely a bookkeeping entry that refers to the analytical method used. All element concentrations are given in parts per million, except those for Fe, Mg, Ca, and Ti, which are given in percent.

If a given element was looked for but not detected in a sample, then the letter "N" is entered in the tables in place of an analytical value. The lower limit of determination for each element for which one or more "N" values have been reported, as well as for those elements that have been deleted from the tables, is given in table 1. Because of matrix interference problems, the spectrographic technique was modified for the analysis of nonmagnetic heavy-mineral-concentrate samples. As a result, the lower limits of determination for the elements analyzed for this type of sample are all raised two reporting values above the normal lower-limit value (table 1).

If an element was not looked for in a sample, then two dashes (--) are entered in tables 2-4 in place of an analytical value. Because of the formatting used in the computer program that produced tables 2-4, some of the elements listed in these tables (Fe, Mg, Ca, Ti, Be, AA-Cd, and AA-Bi), carry one or more nonsignificant zeroes to the right of the significant digits. The analysts did not determine these elements to the accuracy suggested by the nonsignificant zeroes.

Table 1.--Lower limits of analytical determination for samples of rock, minus-0.25-mm stream sediment, and nonmagnetic heavy-mineral concentrate, Mokelumne Wilderness Area and adjacent RARE II further planning areas, California

[(---) indicates not analyzed. "AA" preceding the element symbol indicates atomic absorption analysis; "CM" indicates colorimetric analysis; no prefix indicates spectrographic analysis. Elements listed in tables 2, 3, and 4 but not listed here do not have any reported analyses below their respective lower limits of determination.]

| Element | Lower limit of determination (ppm) |                           |
|---------|------------------------------------|---------------------------|
|         | Rock and stream sediment           | Heavy-mineral concentrate |
| Ag      | 0.5 <sup>1</sup>                   | 1.0                       |
| As      | 200 <sup>1</sup>                   | 500                       |
| Au      | 10 <sup>1</sup>                    | 20                        |
| B       | 10                                 | 20                        |
| Ba      | 20                                 | 50                        |
| Be      | 1                                  | 2                         |
| Bi      | 10 <sup>1</sup>                    | 20                        |
| Cd      | 20 <sup>1</sup>                    | 50                        |
| Co      | 5                                  | 10                        |
| Cr      | 10                                 | 20                        |
| Cu      | 5                                  | 10                        |
| La      | 20                                 | 50                        |
| Mo      | 5                                  | 10                        |
| Nb      | 20                                 | 50                        |
| Ni      | 5                                  | 10                        |
| Pb      | 10                                 | 20                        |
| Sb      | 100 <sup>1</sup>                   | 200 <sup>2</sup>          |
| Sc      | 5                                  | 10                        |
| Sn      | 10 <sup>1</sup>                    | 20                        |
| Sr      | 100                                | 200                       |
| W       | 50 <sup>1</sup>                    | 100                       |
| Y       | 10                                 | 20                        |
| Zn      | 200 <sup>1</sup>                   | 500 <sup>2</sup>          |
| Th      | 200 <sup>1</sup>                   | 500                       |
| AA-Zn   | 5                                  | ---                       |
| AA-Cd   | 0.05                               | ---                       |
| AA-Bi   | 0.5                                | ---                       |
| AA-Sb   | 1.0                                | ---                       |
| CM-As   | 10                                 | ---                       |

<sup>1</sup>All reported values for this element were below the lower limit of determination; thus, this element has been deleted from tables 2 and 3.

<sup>2</sup>All reported values for this element were below the lower limit of determination; thus, this element has been deleted from table 4.



For the semiquantitative spectrographic method used, the elements As, Bi, Cd, Sb, and Zn have lower limits of analytical detection that are usually above normal concentrations for these elements in natural materials. As a result, these elements were run by other, more sensitive methods on the rock and stream-sediment samples, and the spectrographic analyses for these five elements have been deleted from the rock and stream-sediment data sets (tables 2 and 3). The elements Ag, Au, Sn, W, and Th were not detected in any of the rock or stream-sediment samples; consequently, these elements have also been deleted from tables 2 and 3. Both Sb and Zn have been deleted from the concentrate data set (table 4) for the same reason.

Table 2.--Data for rock samples, Mokelumne Wilderness and adjacent study areas, California

| sample  | LATITUDE | LONGITUDE | S-FEX | S-MGX | S-CAZ | S-TIX | S-MN  | S-B | S-BA  |
|---------|----------|-----------|-------|-------|-------|-------|-------|-----|-------|
| CC001RK | 38 39 17 | 120 11 28 | 2.0   | 1.00  | 2.00  | .5    | 700   | N   | 500   |
| CC002RK | 38 41 23 | 120 11 2  | 2.0   | 1.00  | 2.00  | .5    | 700   | <10 | 1,000 |
| CC004RK | 38 42 48 | 120 7 59  | 2.0   | .70   | 1.50  | .5    | 700   | <10 | 1,000 |
| CC006RK | 38 43 7  | 120 4 37  | 5.0   | 1.00  | 1.50  | .7    | 700   | 15  | 1,000 |
| CC007RK | 38 42 35 | 120 5 30  | 2.0   | .70   | 1.00  | .5    | 700   | <10 | 700   |
| CC009RK | 38 40 25 | 120 7 26  | 3.0   | .70   | 1.50  | .3    | 700   | N   | 1,000 |
| CC010RK | 38 40 45 | 120 7 5   | 2.0   | .70   | 1.50  | .3    | 700   | <10 | 1,000 |
| CC011RK | 38 38 53 | 120 10 27 | 3.0   | 1.00  | 1.50  | .5    | 700   | <10 | 1,500 |
| CC012RK | 38 40 7  | 120 10 35 | 3.0   | 1.00  | 1.50  | .5    | 1,000 | <10 | 1,000 |
| CC015RK | 38 41 17 | 120 8 7   | 3.0   | 1.00  | 1.00  | .5    | 700   | N   | 1,500 |
| CC017RK | 38 44 40 | 120 6 20  | 2.0   | .70   | 1.50  | .5    | 500   | 10  | 1,000 |
| DA006RK | 38 41 52 | 119 58 50 | 1.5   | 1.00  | 2.00  | .5    | 300   | <10 | 500   |
| DA409RK | 38 45 35 | 120 6 6   | 5.0   | 1.00  | 2.00  | .5    | 1,000 | 10  | 1,000 |
| MK001RK | 38 29 35 | 120 8 15  | 5.0   | 2.00  | 2.00  | .7    | 2,000 | <10 | 1,000 |
| MK003RK | 38 29 40 | 120 7 8   | 1.5   | .70   | 2.00  | .3    | 1,000 | N   | 700   |
| MK004RK | 38 30 35 | 120 3 30  | 2.0   | .70   | 2.00  | .5    | 300   | <10 | 1,500 |
| MK005RK | 38 30 32 | 120 3 37  | 2.0   | 1.00  | 2.00  | .5    | 700   | N   | 1,000 |
| MK006RK | 38 31 22 | 120 3 0   | 5.0   | 1.50  | 1.50  | .5    | 1,000 | <10 | 1,000 |
| MK009RK | 38 32 40 | 120 2 20  | 1.5   | .70   | 1.50  | .5    | 700   | <10 | 1,000 |
| MK010RK | 38 34 22 | 120 0 52  | 1.0   | .50   | 1.50  | .3    | 700   | <10 | 2,000 |
| MK011RK | 38 29 53 | 120 7 41  | 5.0   | 1.50  | 2.00  | .5    | 1,500 | <10 | 1,500 |
| MK012RK | 38 30 28 | 120 5 50  | 1.0   | .10   | .50   | .1    | 1,000 | N   | 1,500 |
| MK013RK | 38 30 28 | 120 5 50  | 2.0   | .15   | .05   | .5    | 100   | <10 | 1,500 |
| MK014RK | 38 30 40 | 120 4 45  | 7.0   | 1.50  | 1.50  | .7    | 1,500 | <10 | 300   |
| MK015RK | 38 31 10 | 120 3 40  | 5.0   | 1.00  | 2.00  | .5    | 700   | <10 | 500   |
| MK016RK | 38 32 22 | 120 3 20  | 1.5   | .50   | 1.50  | .2    | 700   | N   | 1,000 |
| MK017RK | 38 33 42 | 120 2 35  | 2.0   | .50   | 1.00  | .5    | 700   | <10 | 1,500 |
| MK019RK | 38 34 17 | 120 2 22  | 2.0   | .70   | 1.50  | .3    | 700   | <10 | 1,500 |
| MK020RK | 38 34 37 | 119 56 53 | 1.0   | .30   | 1.00  | .3    | 500   | N   | 1,500 |
| MK024RK | 38 35 38 | 120 2 25  | 2.0   | .70   | 1.50  | .3    | 700   | <10 | 2,000 |
| MK025RK | 38 37 20 | 120 2 7   | 3.0   | 1.00  | 1.50  | .5    | 1,000 | 10  | 2,000 |
| MK026RK | 38 37 15 | 120 2 10  | 2.0   | .50   | 1.00  | .2    | 700   | 10  | 1,500 |
| MK027RK | 38 37 43 | 120 1 47  | 2.0   | .50   | 1.00  | .3    | 1,000 | 10  | 1,500 |
| MK028RK | 38 32 50 | 120 8 39  | 5.0   | 1.00  | 2.00  | .5    | 700   | 20  | 1,000 |
| MK031RK | 38 36 0  | 120 0 7   | 2.0   | .70   | 1.00  | .3    | 500   | <10 | 2,000 |
| MK032RK | 38 36 45 | 120 1 50  | 1.5   | .50   | 1.00  | .5    | 700   | <10 | 1,000 |
| MK033RK | 38 38 47 | 120 0 37  | 5.0   | 1.00  | 2.00  | .3    | 700   | <10 | 1,000 |
| MK034RK | 38 30 52 | 120 9 27  | 5.0   | 1.00  | 1.50  | .5    | 700   | <10 | 1,000 |
| MK035RK | 38 32 12 | 120 8 30  | 5.0   | 1.00  | 1.50  | .7    | 1,000 | 10  | 700   |
| MK036RK | 38 34 35 | 120 6 17  | 5.0   | 1.00  | 1.50  | .5    | 1,000 | <10 | 700   |
| MK038RK | 38 34 33 | 120 4 12  | 5.0   | 1.50  | 2.00  | .7    | 1,000 | <10 | 1,500 |
| MK041RK | 38 33 35 | 120 7 0   | 3.0   | 1.00  | 1.00  | .5    | 1,000 | N   | 1,500 |
| MK042RK | 38 35 45 | 120 4 38  | 1.5   | .50   | 1.50  | .3    | 500   | <10 | 1,000 |
| MK043RK | 38 36 10 | 119 58 45 | 2.0   | .70   | 1.00  | .3    | 1,000 | <10 | 1,500 |
| MK044RK | 38 35 42 | 119 58 42 | 1.5   | .30   | 1.00  | .2    | 700   | <10 | 1,000 |

Table 2.--Data for rock samples, Mokelumne Wilderness and adjacent study areas, California

| sample  | S-BE | S-CO | S-CR | S-CU | S-LA | S-MO | S-NB | S-NI | S-PB |
|---------|------|------|------|------|------|------|------|------|------|
| CC001RK | 1.0  | 7    | 20   | 5    | 30   | N    | N    | <5   | 30   |
| CC002RK | <1.0 | 10   | <10  | 5    | 30   | N    | N    | <5   | 30   |
| CC004RK | <1.0 | 7    | 10   | 7    | 30   | N    | N    | 5    | 50   |
| CC006RK | <1.0 | 15   | 50   | 50   | 20   | N    | N    | 10   | 30   |
| CC007RK | 1.0  | 10   | 10   | 5    | 20   | N    | N    | <5   | 30   |
| CC009RK | <1.0 | 7    | 10   | 30   | 50   | 10   | N    | 5    | 30   |
| CC010RK | 1.0  | 7    | 10   | 20   | 30   | N    | N    | <5   | 30   |
| CC011RK | <1.0 | 10   | 30   | 15   | 50   | 5    | N    | 10   | 30   |
| CC012RK | <1.0 | 15   | 50   | 10   | 50   | N    | N    | 7    | 30   |
| CC015RK | 1.0  | 10   | 10   | 5    | 50   | N    | N    | <5   | 50   |
| CC017RK | <1.0 | 7    | 15   | 7    | 30   | N    | N    | 5    | 30   |
| DA006RK | <1.0 | 15   | 15   | 7    | 50   | N    | N    | 7    | 20   |
| DA409RK | 1.0  | 10   | 10   | 10   | 30   | N    | N    | 5    | 30   |
| MK001RK | <1.0 | 30   | 50   | 10   | 30   | N    | N    | 5    | 10   |
| MK003RK | 1.5  | 7    | N    | 10   | 50   | N    | N    | <5   | 30   |
| MK004RK | <1.0 | 7    | 10   | 100  | 50   | N    | N    | 7    | 20   |
| MK005RK | 1.0  | 10   | 15   | N    | 50   | N    | N    | 5    | 20   |
| MK006RK | <1.0 | 20   | 30   | 15   | 30   | N    | N    | 7    | 30   |
| MK009RK | 1.0  | 10   | 10   | 5    | 200  | N    | N    | 7    | 30   |
| MK010RK | <1.0 | <5   | N    | <5   | 30   | <5   | N    | <5   | 30   |
| MK011RK | <1.0 | 15   | 20   | 7    | 20   | N    | N    | 5    | 20   |
| MK012RK | 1.5  | N    | N    | <5   | 150  | N    | N    | N    | 50   |
| MK013RK | <1.0 | 5    | <10  | N    | 100  | N    | N    | <5   | 30   |
| MK014RK | 1.0  | 20   | 70   | 5    | 50   | N    | N    | 20   | 30   |
| MK015RK | 1.0  | 15   | 30   | 7    | 30   | N    | N    | 5    | 30   |
| MK016RK | 1.0  | 7    | 10   | <5   | 20   | N    | N    | 5    | 70   |
| MK017RK | <1.0 | 7    | <10  | <5   | 30   | N    | N    | 5    | 20   |
| MK019RK | <1.0 | 7    | <10  | <5   | 20   | N    | N    | 5    | 20   |
| MK020RK | 1.5  | <5   | N    | <5   | 50   | N    | N    | <5   | 30   |
| MK024RK | <1.0 | 5    | <10  | <5   | 30   | N    | N    | <5   | 30   |
| MK025RK | <1.0 | 10   | <10  | <5   | 30   | N    | N    | <5   | 50   |
| MK026RK | <1.0 | 5    | <10  | <5   | 50   | N    | N    | <5   | 30   |
| MK027RK | 1.0  | 5    | <10  | <5   | 100  | N    | N    | <5   | 50   |
| MK028RK | <1.0 | 20   | 50   | 20   | 30   | N    | N    | 15   | 30   |
| MK031RK | <1.0 | 7    | <10  | <5   | 20   | N    | N    | 5    | 20   |
| MK032RK | <1.0 | 5    | N    | <5   | 50   | N    | N    | 5    | 20   |
| MK033RK | <1.0 | 15   | 20   | 7    | 30   | N    | N    | 10   | 20   |
| MK034RK | <1.0 | 15   | 20   | 10   | 30   | N    | N    | 5    | 30   |
| MK035RK | <1.0 | 20   | 50   | 30   | 20   | N    | N    | 20   | 30   |
| MK036RK | <1.0 | 10   | 30   | 7    | 50   | N    | N    | 7    | 20   |
| MK038RK | <1.0 | 20   | 10   | 20   | 70   | N    | N    | 10   | 20   |
| MK041RK | <1.0 | 15   | 20   | 7    | 30   | N    | N    | 5    | 30   |
| MK042RK | 1.0  | 7    | <10  | <5   | 50   | N    | N    | <5   | 20   |
| MK043RK | <1.0 | 7    | N    | <5   | 50   | N    | <20  | <5   | 30   |
| MK044RK | <1.0 | 5    | N    | <5   | 50   | N    | <20  | <5   | 30   |

Table 2.--Data for rock samples, Mokelumne Wilderness and adjacent study areas, California

| sample  | S-SC | S-SR  | S-V | S-Y | S-ZR | AA-ZN-P | AA-CD-P | AA-BI-P | AA-SB-P | CH-AS |
|---------|------|-------|-----|-----|------|---------|---------|---------|---------|-------|
| CC001RK | 7    | 500   | 150 | 10  | 50   | 55      | N       | N       | 2       | N     |
| CC002RK | 10   | 500   | 150 | 15  | 50   | 40      | N       | <.5     | 2       | N     |
| CC004RK | 5    | 500   | 100 | 10  | 70   | 45      | <.05    | <.5     | 2       | N     |
| CC006RK | 7    | 500   | 150 | 15  | 100  | 45      | .05     | <.5     | 2       | N     |
| CC007RK | 5    | 500   | 100 | 15  | 50   | 45      | <.05    | N       | 2       | N     |
| CC009RK | 5    | 500   | 100 | 15  | 100  | 50      | .10     | N       | 3       | N     |
| CC010RK | 5    | 500   | 100 | 10  | 50   | 50      | <.05    | N       | 3       | N     |
| CC011RK | 10   | 500   | 150 | 20  | 150  | 50      | <.05    | N       | 2       | N     |
| CC012RK | 10   | 500   | 150 | 20  | 100  | 40      | <.05    | <.5     | 2       | N     |
| CC015RK | 7    | 500   | 100 | 20  | 200  | 50      | <.05    | <.5     | 3       | N     |
| CC017RK | 5    | 500   | 100 | 10  | 50   | 40      | N       | <.5     | 3       | N     |
| DA006RK | 7    | 500   | 70  | 10  | 50   | 50      | .25     | N       | 1       | N     |
| DA409RK | 5    | 700   | 100 | 10  | 15   | 75      | <.05    | N       | 2       | N     |
| MK001RK | 20   | 700   | 200 | 20  | 70   | 70      | N       | N       | 2       | N     |
| MK003RK | 5    | 500   | 70  | 15  | 50   | 80      | <.05    | N       | 2       | N     |
| MK004RK | N    | 1,000 | 50  | <10 | 20   | 70      | N       | N       | 1       | N     |
| MK005RK | 7    | 1,500 | 100 | 10  | 70   | 80      | .10     | N       | 2       | N     |
| MK006RK | 15   | 700   | 150 | 20  | 70   | 80      | N       | N       | 1       | N     |
| MK009RK | 5    | 500   | 70  | 20  | 50   | 50      | N       | N       | 2       | N     |
| MK010RK | 5    | 500   | 50  | 15  | 70   | 60      | N       | N       | 2       | N     |
| MK011RK | 20   | 700   | 200 | 20  | 70   | 60      | <.05    | N       | 2       | N     |
| MK012RK | 7    | 100   | 10  | 20  | 70   | 40      | .10     | N       | 2       | N     |
| MK013RK | 7    | 200   | 100 | 20  | 200  | 55      | N       | N       | 2       | N     |
| MK014RK | 15   | 500   | 100 | 20  | 100  | 90      | <.05    | N       | 1       | N     |
| MK015RK | 7    | 500   | 150 | 10  | 50   | 70      | N       | N       | 2       | N     |
| MK016RK | 5    | 300   | 70  | N   | 100  | 45      | N       | <.5     | 2       | N     |
| MK017RK | 5    | 500   | 70  | N   | 70   | 65      | <.05    | N       | 1       | N     |
| MK019RK | 5    | 500   | 70  | <10 | 50   | 70      | N       | N       | 2       | N     |
| MK020RK | <5   | 500   | 50  | 10  | 50   | 40      | <.05    | N       | 2       | N     |
| MK024RK | 5    | 300   | 70  | 10  | 100  | 50      | N       | N       | 2       | N     |
| MK025RK | 5    | 500   | 100 | N   | 150  | 75      | N       | N       | 2       | N     |
| MK026RK | 5    | 300   | 50  | <10 | 50   | 55      | N       | N       | 2       | N     |
| MK027RK | 5    | 300   | 70  | 20  | 50   | 60      | N       | N       | 2       | N     |
| MK028RK | 15   | 500   | 200 | 20  | 100  | 50      | <.05    | N       | 2       | N     |
| MK031RK | 5    | 500   | 70  | 20  | 70   | 60      | <.05    | N       | 2       | N     |
| MK032RK | 5    | 500   | 70  | 15  | 50   | 60      | <.05    | N       | 2       | N     |
| MK033RK | 10   | 500   | 150 | 10  | 50   | 65      | N       | <.5     | 2       | <10   |
| MK034RK | 5    | 300   | 100 | <10 | 50   | 50      | N       | N       | 2       | N     |
| MK035RK | 15   | 500   | 200 | 20  | 15   | 60      | <.05    | N       | 2       | N     |
| MK036RK | 10   | 500   | 150 | 20  | 100  | 50      | N       | N       | 1       | N     |
| MK038RK | 7    | 700   | 150 | 15  | 70   | 70      | N       | N       | 2       | N     |
| MK041RK | 7    | 500   | 150 | 10  | 50   | 65      | N       | N       | 1       | N     |
| MK042RK | 5    | 500   | 50  | 15  | 70   | 45      | N       | N       | 2       | N     |
| MK043RK | 5    | 500   | 50  | 20  | 100  | 40      | <.05    | N       | 2       | N     |
| MK044RK | <5   | 500   | 30  | N   | 70   | 45      | <.05    | N       | 2       | N     |

Table 2.--Data for rock samples, Mokelumne Wilderness and adjacent study areas, California--continued

| sample   | LATITUDE | LONGITUDE | S-FEX | S-MGX | S-CAZ | S-TIX | S-MN  | S-B | S-BA  |
|----------|----------|-----------|-------|-------|-------|-------|-------|-----|-------|
| MK045RK  | 38 33 0  | 120 1 27  | 2.0   | 1.00  | 1.50  | .3    | 500   | 10  | 500   |
| MK602RK  | 38 32 24 | 120 5 40  | 3.0   | .70   | .50   | .5    | 500   | 15  | 300   |
| RP500RK  | 38 31 40 | 120 0 50  | 3.0   | 1.00  | 1.50  | .3    | 700   | N   | 500   |
| RP502RK  | 38 32 48 | 119 57 13 | 2.0   | .20   | 1.00  | .3    | 500   | N   | 2,000 |
| RP503RK  | 38 32 32 | 119 56 33 | 2.0   | .70   | 1.00  | .5    | 700   | <10 | 2,000 |
| RP504RK  | 38 38 53 | 119 59 10 | 3.0   | 1.00  | 1.50  | .5    | 1,000 | N   | 1,000 |
| RP505RK  | 38 38 43 | 119 59 10 | 1.5   | .50   | 1.50  | .2    | 500   | N   | 2,000 |
| RP506RK  | 38 34 50 | 119 53 27 | 1.5   | .50   | 1.00  | .2    | 500   | N   | 700   |
| RP507RK  | 38 36 17 | 119 57 50 | 1.5   | .50   | 1.00  | .2    | 700   | N   | 500   |
| RP508RK  | 38 36 17 | 119 57 30 | 1.5   | .30   | 1.00  | .2    | 700   | N   | 1,000 |
| RP509RK  | 38 37 41 | 119 57 19 | 1.5   | .50   | .70   | .3    | 300   | 10  | 500   |
| RP511RK  | 38 29 1  | 119 59 51 | .5    | .20   | .70   | .1    | 150   | N   | 700   |
| RP512RK  | 38 29 43 | 119 58 47 | 1.0   | .70   | 1.00  | .2    | 200   | <10 | 300   |
| RP516RK  | 38 35 30 | 119 53 5  | 3.0   | 2.00  | 1.50  | .5    | 700   | <10 | 500   |
| RP518RK  | 38 35 11 | 119 51 38 | 2.0   | 1.50  | 1.50  | .3    | 700   | <10 | 500   |
| TE500RK  | 38 35 55 | 120 8 7   | 1.5   | .50   | 1.50  | .3    | 700   | <10 | 1,000 |
| TE503RK  | 38 36 55 | 120 10 48 | 3.0   | 1.00  | 1.50  | .5    | 1,000 | 15  | 1,000 |
| TE505RK  | 38 36 37 | 120 11 28 | 5.0   | 1.50  | 2.00  | .5    | 1,000 | <10 | 1,000 |
| TE507RK  | 38 35 15 | 120 11 52 | 5.0   | 1.00  | 2.00  | .5    | 1,000 | 10  | 1,000 |
| TE510RK  | 38 34 25 | 120 11 55 | 5.0   | 1.00  | 2.00  | .7    | 1,000 | 10  | 1,500 |
| TE511RK  | 38 34 40 | 120 12 30 | 5.0   | 1.00  | 2.00  | .7    | 1,000 | 10  | 1,000 |
| TE513RK  | 38 39 20 | 120 4 55  | 2.0   | .50   | 1.00  | .3    | 700   | N   | 1,500 |
| TE515RK  | 38 41 41 | 120 0 49  | 5.0   | 2.00  | 2.00  | .5    | 1,000 | 15  | 300   |
| TE516RK  | 38 41 0  | 120 0 40  | 7.0   | 2.00  | 3.00  | .7    | 1,000 | <10 | 300   |
| TE517RK  | 38 40 53 | 120 0 17  | 2.0   | 1.00  | 1.50  | .3    | 500   | <10 | 1,000 |
| TE521RK  | 38 40 57 | 120 2 15  | 2.0   | 1.00  | 1.00  | .5    | 500   | <10 | 1,000 |
| TE523RK  | 38 38 7  | 120 7 17  | 3.0   | .50   | 1.50  | .2    | 500   | N   | 1,000 |
| TE524RK  | 38 39 20 | 120 6 23  | 2.0   | .50   | 1.00  | .2    | 500   | N   | 1,000 |
| TE525RK  | 38 39 37 | 120 6 25  | 3.0   | .50   | 1.00  | .2    | 500   | N   | 700   |
| WL0448RK | 38 40 40 | 119 56 1  | 5.0   | 2.00  | 3.00  | .7    | 700   | 20  | 1,000 |
| WL0450RK | 38 38 53 | 119 59 40 | 5.0   | 1.50  | 3.00  | .7    | 1,000 | 20  | 1,000 |
| WL0451RK | 38 34 34 | 119 54 35 | 5.0   | 1.50  | 3.00  | .5    | 700   | <10 | 1,500 |
| WL0453RK | 38 34 38 | 119 59 52 | 3.0   | 1.00  | 3.00  | .3    | 700   | N   | 1,500 |
| WL0455RK | 38 33 53 | 119 58 57 | 1.0   | .50   | 2.00  | .2    | 500   | <10 | 2,000 |
| WL0456RK | 38 33 20 | 119 58 6  | 3.0   | 1.50  | 2.00  | .5    | 1,500 | 20  | 1,000 |
| WL0457RK | 38 33 31 | 119 57 37 | 2.0   | 1.00  | 2.00  | .5    | 500   | N   | 2,000 |
| WL0458RK | 38 32 39 | 119 55 45 | 3.0   | 1.00  | 2.00  | .5    | 1,000 | 15  | 2,000 |
| WL0459RK | 38 32 21 | 119 55 44 | 3.0   | 1.50  | 2.00  | .7    | 1,000 | 10  | 2,000 |
| WL0611RK | 38 28 56 | 119 59 12 | 1.5   | .50   | 1.50  | .3    | 500   | 15  | 700   |
| WL0613RK | 38 32 45 | 119 52 44 | 1.0   | .50   | 1.00  | .2    | 500   | 10  | 1,000 |
| WL0615RK | 38 33 15 | 119 50 55 | 2.0   | 1.00  | 1.50  | .5    | 1,000 | <10 | 500   |

Table 2.--Data for rock samples, Mokelumne Wilderness and adjacent study areas, California--continued

| sample   | S-BE | S-CO | S-CR | S-CU | S-LA | S-MO | S-NB | S-NI | S-PB |
|----------|------|------|------|------|------|------|------|------|------|
| MK045RK  | <1.0 | 10   | 20   | 10   | 30   | N    | N    | 15   | 20   |
| MK602RK  | 1.0  | 7    | 50   | 20   | 100  | N    | <20  | 5    | 15   |
| RP500RK  | 1.0  | 10   | 30   | 5    | 30   | N    | N    | 5    | 20   |
| RP502RK  | <1.0 | 7    | N    | <5   | 20   | N    | N    | <5   | 50   |
| RP503RK  | <1.0 | 5    | <10  | 5    | 20   | N    | N    | N    | 15   |
| RP504RK  | <1.0 | 15   | 20   | 7    | 70   | N    | N    | 10   | 20   |
| RP505RK  | 1.5  | N    | <10  | 10   | 50   | N    | N    | <5   | 20   |
| RP506RK  | 1.0  | 5    | N    | 5    | 70   | N    | N    | <5   | 20   |
| RP507RK  | 1.0  | 5    | N    | <5   | 50   | N    | N    | <5   | 30   |
| RP508RK  | 1.0  | 5    | N    | <5   | 30   | N    | N    | <5   | 30   |
| RP509RK  | <1.0 | 10   | <10  | <5   | 30   | N    | N    | <5   | 20   |
| RP511RK  | <1.0 | 5    | <10  | <5   | 20   | N    | N    | <5   | 30   |
| RP512RK  | <1.0 | 10   | 10   | <5   | 30   | N    | N    | 5    | 20   |
| RP516RK  | <1.0 | 20   | <10  | 10   | 20   | N    | N    | 5    | 20   |
| RP518RK  | <1.0 | 15   | 20   | 10   | 30   | N    | N    | 10   | 20   |
| TE500RK  | 1.0  | 7    | 10   | 5    | 30   | N    | N    | 5    | 30   |
| TE503RK  | <1.0 | 15   | 30   | 20   | 30   | N    | N    | 15   | 30   |
| TE505RK  | <1.0 | 20   | 50   | 20   | 50   | 5    | N    | 20   | 30   |
| TE507RK  | <1.0 | 20   | 50   | 30   | 50   | N    | N    | 20   | 30   |
| TE510RK  | <1.0 | 20   | 30   | 30   | 50   | N    | N    | 15   | 30   |
| TE511RK  | <1.0 | 20   | 50   | 20   | 50   | N    | N    | 15   | 30   |
| TE513RK  | 1.0  | 10   | 10   | 5    | 20   | N    | N    | 5    | 30   |
| TE515RK  | <1.0 | 20   | 150  | 30   | 30   | N    | N    | 50   | 15   |
| TE516RK  | <1.0 | 20   | 50   | 50   | 30   | 5    | N    | 30   | 15   |
| TE517RK  | 1.0  | 7    | 10   | <5   | 30   | N    | N    | 5    | 20   |
| TE521RK  | 1.0  | 10   | 15   | 5    | 50   | N    | N    | 5    | 20   |
| TE523RK  | <1.0 | 5    | 10   | 5    | 30   | N    | N    | <5   | 50   |
| TE524RK  | <1.0 | 5    | N    | <5   | 20   | N    | N    | <5   | 50   |
| TE525RK  | <1.0 | 5    | <10  | <5   | 30   | N    | N    | <5   | 50   |
| WL0448RK | 2.0  | 20   | 30   | 20   | 50   | N    | <20  | 10   | 20   |
| WL0450RK | 1.0  | 20   | 30   | 15   | 50   | N    | N    | 20   | 50   |
| WL0451RK | 2.0  | 10   | <10  | <5   | 50   | N    | <20  | <5   | 20   |
| WL0453RK | 2.0  | 7    | <10  | <5   | 50   | N    | <20  | <5   | 20   |
| WL0455RK | 1.0  | N    | <10  | <5   | 50   | N    | N    | <5   | 70   |
| WL0456RK | 5.0  | 10   | <10  | 5    | 50   | N    | <20  | <5   | 30   |
| WL0457RK | 2.0  | 7    | <10  | <5   | 30   | 15   | <20  | 5    | 20   |
| WL0458RK | 2.0  | 10   | N    | N    | 50   | N    | <20  | <5   | 30   |
| WL0459RK | <1.0 | 10   | <10  | N    | 50   | N    | N    | <5   | 50   |
| WL0611RK | 1.0  | 5    | <10  | 5    | 50   | N    | N    | 5    | 30   |
| WL0613RK | 1.0  | <5   | N    | N    | 30   | N    | N    | <5   | 20   |
| WL0615RK | 1.0  | 10   | <10  | <5   | 30   | 7    | N    | 5    | 30   |

Table 2.--Data for rock samples, Mokelumne Wilderness and adjacent study areas, California--continued

| sample   | S-SC | S-SR  | S-V | S-Y | S-ZR | AA-ZN-P | AA-CD-P | AA-BI-P | AA-SB-P | CM-AS |
|----------|------|-------|-----|-----|------|---------|---------|---------|---------|-------|
| MK045RK  | 7    | 500   | 70  | 10  | 100  | --      | --      | --      | --      | --    |
| MK602RK  | 10   | 200   | 50  | 20  | 100  | --      | --      | --      | --      | --    |
| RP500RK  | 7    | 700   | 100 | 20  | 70   | 60      | .10     | <.5     | 2       | N     |
| RP502RK  | <5   | 500   | 50  | N   | 50   | 40      | N       | N       | 2       | N     |
| RP503RK  | 5    | 300   | 50  | 15  | 50   | 45      | N       | N       | 2       | N     |
| RP504RK  | 10   | 700   | 150 | 15  | 70   | 70      | .15     | N       | 4       | N     |
| RP505RK  | <5   | 1,000 | 50  | 15  | 150  | 30      | .15     | <.5     | 2       | N     |
| RP506RK  | 5    | 300   | 50  | 15  | 50   | 40      | .10     | N       | 2       | N     |
| RP507RK  | 5    | 300   | 70  | 20  | 50   | 50      | .10     | N       | 3       | N     |
| RP508RK  | 5    | 200   | 50  | 10  | 20   | 40      | .10     | <.5     | 2       | N     |
| RP509RK  | 7    | 200   | 50  | 10  | 100  | 55      | .25     | N       | <1      | N     |
| RP511RK  | <5   | 300   | 30  | <10 | 30   | 30      | .30     | N       | <1      | N     |
| RP512RK  | 7    | 200   | 50  | <10 | 70   | 50      | .25     | <.5     | <1      | N     |
| RP516RK  | 15   | 500   | 100 | 15  | 70   | 60      | .25     | <.5     | <1      | N     |
| RP518RK  | 10   | 500   | 70  | 10  | 100  | 25      | .30     | N       | 1       | N     |
| TE500RK  | 5    | 500   | 70  | 10  | 70   | 40      | <.05    | N       | 2       | N     |
| TE503RK  | 20   | 500   | 150 | 30  | 50   | 40      | N       | <.5     | 2       | N     |
| TE505RK  | 15   | 500   | 150 | 20  | 70   | 45      | <.05    | <.5     | 2       | N     |
| TE507RK  | 15   | 500   | 150 | 20  | 20   | 50      | .05     | N       | 2       | N     |
| TE510RK  | 15   | 500   | 200 | 20  | 100  | 40      | <.05    | <.5     | 3       | N     |
| TE511RK  | 15   | 500   | 200 | 20  | 70   | 50      | <.05    | <.5     | 3       | N     |
| TE513RK  | 5    | 500   | 70  | 10  | 100  | 50      | .10     | N       | 2       | N     |
| TE515RK  | 20   | 500   | 200 | 15  | 20   | 40      | <.05    | <.5     | 2       | N     |
| TE516RK  | 20   | 1,000 | 200 | 20  | 50   | 40      | <.05    | <.5     | 2       | N     |
| TE517RK  | 5    | 500   | 100 | 10  | 20   | 40      | <.05    | N       | 2       | N     |
| TE521RK  | 5    | 700   | 100 | 15  | 70   | 50      | <.05    | N       | 2       | N     |
| TE523RK  | 5    | 500   | 70  | 15  | 70   | 40      | .10     | N       | 2       | N     |
| TE524RK  | 5    | 300   | 50  | 10  | 70   | 40      | .10     | N       | 3       | N     |
| TE525RK  | 5    | 300   | 70  | 10  | 70   | 45      | .10     | N       | 3       | N     |
| WL0448RK | 15   | 700   | 500 | 20  | 500  | 55      | .10     | .5      | 2       | N     |
| WL0450RK | 15   | 1,000 | 200 | 20  | 70   | 55      | <.05    | <.5     | 2       | N     |
| WL0451RK | 10   | 500   | 100 | 10  | 300  | 65      | .10     | N       | 2       | N     |
| WL0453RK | 5    | 1,000 | 70  | 10  | 200  | 60      | .10     | <.5     | 3       | N     |
| WL0455RK | 5    | 700   | 70  | 20  | 70   | 20      | N       | <.5     | 2       | N     |
| WL0456RK | 7    | 300   | 100 | 20  | 200  | 90      | .10     | N       | 2       | N     |
| WL0457RK | 7    | 500   | 100 | 20  | 150  | 50      | .10     | N       | 5       | N     |
| WL0458RK | 7    | 500   | 100 | 20  | 200  | 60      | .10     | <.5     | 2       | N     |
| WL0459RK | 10   | 1,000 | 150 | 30  | 100  | 40      | N       | <.5     | 2       | N     |
| WL0611RK | 7    | 700   | 100 | 10  | 100  | 40      | .05     | N       | 2       | N     |
| WL0613RK | 7    | 500   | 100 | 10  | 100  | 40      | N       | .5      | 3       | N     |
| WL0615RK | 5    | 500   | 200 | <10 | 50   | 45      | N       | .5      | 2       | N     |

Table 3.--Data for stream-sediment samples, Mokelumne Wilderness and adjacent study areas, California

| sample  | LATITUDE | LONGITUDE | S-FEX | S-MG% | S-CAZ | S-TIX | S-MN  | S-B | S-BA  |
|---------|----------|-----------|-------|-------|-------|-------|-------|-----|-------|
| CC001SS | 38 39 17 | 120 11 28 | 5     | 1.0   | 2.0   | .7    | 1,500 | 10  | 1,000 |
| CC002SS | 38 41 23 | 120 11 2  | 5     | 1.5   | 2.0   | .5    | 1,500 | 10  | 1,000 |
| CC003SS | 38 41 35 | 120 10 52 | 5     | 1.5   | 2.0   | .7    | 1,000 | 15  | 1,000 |
| CC004SS | 38 42 48 | 120 7 59  | 5     | 1.5   | 2.0   | .5    | 1,000 | 10  | 700   |
| CC005SS | 38 42 40 | 120 7 52  | 5     | 1.5   | 3.0   | .5    | 1,500 | 10  | 1,000 |
| CC006SS | 38 43 7  | 120 4 37  | 5     | 1.5   | 2.0   | .7    | 1,000 | 10  | 1,000 |
| CC007SS | 38 42 35 | 120 5 30  | 5     | 2.0   | 3.0   | .5    | 1,500 | <10 | 1,000 |
| CC008SS | 38 42 27 | 120 5 35  | 5     | 1.5   | 3.0   | .7    | 1,500 | <10 | 1,500 |
| CC009SS | 38 40 25 | 120 7 26  | 2     | .7    | 1.5   | .2    | 1,000 | 20  | 1,000 |
| CC010SS | 38 40 45 | 120 7 5   | 3     | 1.5   | 2.0   | .5    | 1,000 | <10 | 1,000 |
| CC011SS | 38 38 53 | 120 10 27 | 3     | 1.0   | 2.0   | .5    | 1,000 | 10  | 700   |
| CC012SS | 38 40 7  | 120 10 35 | 5     | 1.5   | 2.0   | .7    | 1,000 | 10  | 500   |
| CC013SS | 38 39 57 | 120 9 52  | 2     | 1.0   | 2.0   | .3    | 700   | <10 | 500   |
| CC015SS | 38 41 17 | 120 8 7   | 7     | 2.0   | 2.0   | .7    | 1,500 | 10  | 1,000 |
| CC016SS | 38 44 42 | 120 6 2   | 5     | 1.0   | 1.5   | .5    | 1,000 | 20  | 500   |
| DA006SS | 38 41 52 | 119 58 50 | 5     | 1.0   | 2.0   | .5    | 1,000 | 15  | 1,000 |
| DA09SS  | 38 45 35 | 120 6 6   | 10    | .7    | 1.5   | .5    | 700   | 10  | 500   |
| MK001SS | 38 29 35 | 120 8 15  | 7     | 1.5   | 2.0   | .5    | 1,500 | 10  | 500   |
| MK002SS | 38 29 35 | 120 8 7   | 7     | 1.0   | 2.0   | .5    | 1,500 | <10 | 500   |
| MK003SS | 38 29 40 | 120 7 8   | 10    | 2.0   | 2.0   | .7    | 2,000 | 10  | 700   |
| MK004SS | 38 30 35 | 120 3 30  | 5     | 1.5   | 2.0   | .5    | 1,000 | 10  | 700   |
| MK005SS | 38 30 32 | 120 3 37  | 7     | 1.0   | 1.5   | .5    | 1,500 | 10  | 1,000 |
| MK006SS | 38 31 22 | 120 3 0   | 10    | 1.5   | 1.5   | .7    | 2,000 | 10  | 500   |
| MK007SS | 38 32 35 | 120 1 55  | 5     | 1.5   | 2.0   | .5    | 1,000 | 15  | 1,000 |
| MK008SS | 38 32 43 | 120 1 51  | 15    | 1.0   | 2.0   | .7    | 2,000 | 10  | 500   |
| MK010SS | 38 34 22 | 120 0 52  | 5     | 1.0   | 2.0   | .5    | 1,000 | 10  | 500   |
| MK011SS | 38 29 53 | 120 7 41  | 7     | 1.0   | 1.5   | .7    | 2,000 | 10  | 500   |
| MK012SS | 38 30 28 | 120 5 50  | 2     | .3    | 1.0   | .3    | 1,500 | <10 | 500   |
| MK013SS | 38 30 28 | 120 5 50  | 2     | 1.0   | 1.0   | .3    | 1,000 | <10 | 700   |
| MK014SS | 38 30 40 | 120 4 45  | 3     | .7    | 1.0   | .5    | 700   | <10 | 700   |
| MK015SS | 38 31 10 | 120 3 40  | 5     | 1.0   | 2.0   | .5    | 1,000 | <10 | 700   |
| MK016SS | 38 32 22 | 120 3 20  | 2     | 1.0   | 1.5   | .3    | 1,000 | <10 | 500   |
| MK017SS | 38 33 42 | 120 2 35  | 3     | .7    | 1.0   | .5    | 1,000 | 30  | 1,000 |
| MK018SS | 38 34 32 | 120 2 15  | 5     | 1.0   | 1.5   | .5    | 1,500 | <10 | 500   |
| MK019SS | 38 34 17 | 120 2 22  | 2     | .5    | 1.5   | .3    | 1,000 | <10 | 1,000 |
| MK020SS | 38 34 37 | 119 56 53 | 5     | 1.0   | 2.0   | .5    | 1,500 | <10 | 300   |
| MK024SS | 38 35 38 | 120 2 25  | 3     | .2    | 1.0   | .2    | 1,000 | 10  | 500   |
| MK025SS | 38 37 20 | 120 2 7   | 7     | .7    | 1.0   | .5    | 1,500 | 10  | 500   |
| MK026SS | 38 37 15 | 120 2 10  | 3     | .3    | 1.0   | .2    | 700   | 10  | 500   |
| MK027SS | 38 37 43 | 120 1 47  | 5     | 1.0   | 1.5   | .7    | 1,500 | 10  | 700   |
| MK028SS | 38 32 50 | 120 8 39  | 5     | 1.5   | 2.0   | .5    | 1,500 | 10  | 700   |
| MK029SS | 38 32 49 | 120 8 30  | 5     | 1.0   | 2.0   | .5    | 1,000 | <10 | 500   |
| MK030SS | 38 33 41 | 120 7 3   | 2     | 1.0   | 1.5   | .3    | 1,000 | 10  | 500   |
| MK031SS | 38 36 0  | 120 0 7   | 3     | 1.0   | 1.5   | .5    | 1,000 | 10  | 500   |
| MK032SS | 38 36 45 | 120 1 50  | 7     | .5    | 1.5   | .5    | 1,500 | 10  | 500   |



Table 3.--Data for stream-sediment samples, Mokelumne Wilderness and adjacent study areas, California

| sample  | S-BE | S-CO | S-CR | S-CU | S-LA | S-MO | S-NB | S-NI | S-PB |
|---------|------|------|------|------|------|------|------|------|------|
| CC001SS | 1.0  | 20   | 50   | 20   | 50   | <5   | N    | 20   | 30   |
| CC002SS | <1.0 | 15   | 70   | 20   | 50   | 5    | N    | 20   | 30   |
| CC003SS | <1.0 | 20   | 70   | 20   | 50   | <5   | N    | 20   | 30   |
| CC004SS | <1.0 | 15   | 100  | 20   | 30   | N    | N    | 30   | 30   |
| CC005SS | 1.0  | 20   | 100  | 30   | 70   | N    | N    | 30   | 30   |
| CC006SS | <1.0 | 30   | 70   | 20   | 30   | N    | N    | 30   | 30   |
| CC007SS | <1.0 | 30   | 70   | 20   | 30   | <5   | N    | 20   | 20   |
| CC008SS | <1.0 | 30   | 50   | 30   | 30   | <5   | N    | 30   | 30   |
| CC009SS | 1.0  | 7    | 30   | 7    | 30   | <5   | N    | 10   | 100  |
| CC010SS | <1.0 | 15   | 50   | 20   | 20   | N    | N    | 15   | 50   |
| CC011SS | 1.0  | 15   | 50   | 15   | 50   | 5    | N    | 15   | 30   |
| CC012SS | <1.0 | 15   | 50   | 20   | 50   | 5    | N    | 10   | 30   |
| CC013SS | 1.0  | 7    | 30   | 7    | 30   | 5    | <20  | 5    | 30   |
| CC015SS | <1.0 | 20   | 70   | 20   | 50   | N    | N    | 20   | 30   |
| CC016SS | 1.0  | 10   | 50   | 10   | 50   | 5    | <20  | 5    | 30   |
| DA006SS | <1.0 | 20   | 150  | 20   | 30   | N    | N    | 50   | 50   |
| DA409SS | <1.0 | 15   | 70   | 20   | 20   | N    | N    | 10   | 20   |
| MK001SS | 1.0  | 30   | 70   | 15   | 50   | N    | N    | 30   | 20   |
| MK002SS | <1.0 | 30   | 70   | 15   | 30   | N    | N    | 10   | 20   |
| MK003SS | <1.0 | 50   | 150  | 20   | 30   | N    | N    | 50   | 20   |
| MK004SS | 1.0  | 20   | 70   | 30   | 30   | N    | N    | 30   | 50   |
| MK005SS | <1.0 | 20   | 150  | 10   | 50   | N    | N    | 20   | 30   |
| MK006SS | <1.0 | 20   | 100  | 20   | 30   | <5   | N    | 30   | 30   |
| MK007SS | <1.0 | 20   | 70   | 20   | 30   | N    | N    | 30   | 30   |
| MK008SS | <1.0 | 20   | 70   | 20   | 30   | N    | N    | 7    | 20   |
| MK010SS | <1.0 | 15   | 70   | 10   | 50   | <5   | N    | 20   | 30   |
| MK011SS | 1.0  | 15   | 50   | 5    | 70   | N    | 20   | N    | 20   |
| MK012SS | 1.5  | <5   | 10   | 5    | 70   | 7    | <20  | <5   | 70   |
| MK013SS | 1.5  | 7    | 20   | 7    | 50   | N    | N    | 5    | 70   |
| MK014SS | 1.0  | 10   | 20   | 20   | 100  | 7    | <20  | <5   | 50   |
| MK015SS | <1.0 | 15   | 30   | 10   | 30   | N    | N    | 5    | 30   |
| MK016SS | 1.0  | 7    | 30   | 10   | 30   | 5    | N    | 10   | 50   |
| MK017SS | <1.0 | 10   | 50   | 15   | 50   | 5    | N    | 5    | 50   |
| MK018SS | 1.0  | 10   | 15   | 7    | 30   | N    | N    | <5   | 30   |
| MK019SS | 1.5  | 7    | <10  | 5    | 100  | N    | N    | <5   | 70   |
| MK020SS | <1.0 | 20   | <10  | 15   | 30   | <5   | N    | <5   | 20   |
| MK024SS | <1.0 | 5    | 10   | 5    | 30   | 7    | N    | <5   | 50   |
| MK025SS | <1.0 | 10   | 20   | 7    | 50   | N    | N    | 5    | 50   |
| MK026SS | 1.0  | <5   | 10   | 5    | 30   | <5   | N    | 5    | 50   |
| MK027SS | 1.0  | 15   | 30   | 10   | 30   | 5    | N    | 5    | 50   |
| MK028SS | <1.0 | 30   | 100  | 20   | 50   | <5   | N    | 50   | 30   |
| MK029SS | <1.0 | 20   | 70   | 20   | 50   | 5    | N    | 10   | 50   |
| MK030SS | <1.0 | 15   | 70   | 10   | 20   | N    | N    | 20   | 30   |
| MK031SS | 1.0  | 10   | 10   | 7    | 50   | 5    | N    | <5   | 50   |
| MK032SS | 1.0  | 10   | 20   | 7    | 30   | <5   | N    | <5   | 70   |

Table 3.--Data for stream-sediment samples, Mokelumne Wilderness and adjacent study areas, California

| sample  | S-SC | S-SR  | S-V | S-Y | S-ZR | AA-ZN-P | AA-CD-P | AA-BI-P | AA-SB-P | CM-AS |
|---------|------|-------|-----|-----|------|---------|---------|---------|---------|-------|
| CC001SS | 20   | 700   | 200 | 15  | 100  | 40      | .10     | N       | 2       | N     |
| CC002SS | 15   | 700   | 200 | 15  | 100  | 40      | .10     | <.5     | 3       | N     |
| CC003SS | 15   | 1,000 | 200 | 15  | 70   | 55      | .10     | <.5     | 2       | N     |
| CC004SS | 15   | 1,000 | 150 | 20  | 70   | 35      | .05     | N       | 2       | N     |
| CC005SS | 20   | 1,000 | 200 | 15  | 100  | 55      | .10     | N       | 2       | N     |
| CC006SS | 20   | 1,000 | 200 | 15  | 70   | 40      | .10     | <.5     | 2       | N     |
| CC007SS | 30   | 1,000 | 200 | 20  | 100  | 35      | .05     | <.5     | 3       | N     |
| CC008SS | 20   | 1,000 | 200 | 20  | 100  | 50      | .10     | N       | 2       | N     |
| CC009SS | 5    | 500   | 70  | 20  | 100  | 40      | .15     | <.5     | 2       | N     |
| CC010SS | 15   | 1,000 | 200 | 15  | 100  | 40      | .10     | N       | 2       | N     |
| CC011SS | 10   | 500   | 150 | 30  | 100  | 65      | .10     | <.5     | 3       | N     |
| CC012SS | 15   | 700   | 200 | 30  | 300  | 40      | .10     | <.5     | 2       | N     |
| CC013SS | 15   | 500   | 100 | 20  | 70   | 25      | <.05    | <.5     | 2       | N     |
| CC015SS | 30   | 1,000 | 300 | 15  | 100  | 45      | .10     | N       | 3       | N     |
| CC016SS | 10   | 500   | 150 | 20  | 300  | 40      | N       | 1.0     | 2       | N     |
| DA006SS | 15   | 1,000 | 200 | 20  | 70   | 80      | .20     | N       | 2       | N     |
| DA409SS | 10   | 700   | 300 | 20  | 150  | 30      | .10     | N       | 2       | N     |
| MK001SS | 20   | 500   | 200 | 20  | 50   | 55      | .05     | N       | 1       | N     |
| MK002SS | 30   | 700   | 300 | 30  | 300  | 50      | N       | N       | 2       | N     |
| MK003SS | 30   | 500   | 300 | 30  | 150  | 40      | N       | N       | 1       | N     |
| MK004SS | 15   | 1,000 | 200 | 15  | 100  | 60      | .15     | N       | 1       | N     |
| MK005SS | 15   | 500   | 150 | 20  | 200  | 65      | .10     | <.5     | 1       | N     |
| MK006SS | 20   | 500   | 200 | 30  | 150  | 50      | <.05    | <.5     | <1      | N     |
| MK007SS | 20   | 700   | 200 | 15  | 70   | 45      | N       | N       | 1       | N     |
| MK008SS | 15   | 500   | 300 | 30  | 300  | 40      | N       | N       | 1       | N     |
| MK010SS | 15   | 700   | 200 | 20  | 200  | 40      | <.05    | N       | 2       | N     |
| MK011SS | 20   | 300   | 500 | 50  | 500  | 45      | .15     | <.5     | 2       | N     |
| MK012SS | 5    | 300   | 70  | 30  | 150  | 70      | .25     | 1.0     | <1      | N     |
| MK013SS | 7    | 500   | 100 | 20  | 150  | 70      | .15     | <.5     | 2       | N     |
| MK014SS | 7    | 500   | 100 | 50  | 200  | 70      | <.05    | N       | 2       | N     |
| MK015SS | 10   | 500   | 150 | 20  | 70   | 50      | .10     | <.5     | 2       | N     |
| MK016SS | 7    | 700   | 100 | 15  | 100  | 45      | .05     | N       | 1       | N     |
| MK017SS | 10   | 500   | 100 | 20  | 200  | 80      | .15     | <.5     | 1       | 10    |
| MK018SS | 10   | 500   | 150 | 20  | 150  | 50      | N       | N       | 1       | N     |
| MK019SS | 5    | 700   | 70  | 15  | 100  | 60      | .05     | N       | 3       | N     |
| MK020SS | 20   | 500   | 150 | 30  | 150  | 40      | <.05    | N       | 2       | N     |
| MK024SS | 5    | 300   | 100 | 20  | 150  | 40      | N       | <.5     | 2       | N     |
| MK025SS | 10   | 500   | 150 | 30  | 150  | 50      | N       | <.5     | 2       | N     |
| MK026SS | 5    | 500   | 100 | 10  | 50   | 40      | .05     | <.5     | 2       | N     |
| MK027SS | 10   | 500   | 200 | 20  | 150  | 60      | .10     | N       | 1       | N     |
| MK028SS | 20   | 500   | 200 | 20  | 150  | 40      | <.05    | N       | 2       | N     |
| MK029SS | 20   | 700   | 150 | 30  | 500  | 50      | N       | N       | 2       | N     |
| MK030SS | 15   | 700   | 150 | 20  | 70   | 35      | N       | N       | 2       | N     |
| MK031SS | 10   | 500   | 100 | 30  | 200  | 70      | .15     | <.5     | 5       | N     |
| MK032SS | 10   | 300   | 200 | 50  | 100  | 50      | .05     | <.5     | 1       | N     |

Table 3.--Data for stream-sediment samples, Mokelumne Wilderness and adjacent study areas, California--continued

| sample  | LATITUDE | LONGITUDE | S-FEX | S-MGX | S-CAX | S-TIX | S-MN  | S-B | S-BA  |
|---------|----------|-----------|-------|-------|-------|-------|-------|-----|-------|
| MK033SS | 38 38 47 | 120 0 37  | 7     | .7    | 1.0   | .3    | 2,000 | 10  | 500   |
| MK034SS | 38 30 52 | 120 9 27  | 3     | 1.0   | 1.5   | .3    | 1,000 | 20  | 500   |
| MK035SS | 38 32 12 | 120 8 30  | 2     | 1.0   | 1.5   | .5    | 1,000 | <10 | 700   |
| MK036SS | 38 34 35 | 120 6 17  | 5     | 1.5   | 2.0   | .5    | 1,500 | 10  | 500   |
| MK037SS | 38 34 35 | 120 6 12  | 5     | 1.5   | 2.0   | .5    | 1,000 | <10 | 700   |
| MK038SS | 38 34 33 | 120 4 12  | 2     | .5    | 1.5   | .2    | 700   | <10 | 500   |
| MK039SS | 38 34 35 | 120 4 18  | 2     | .7    | 1.0   | .3    | 1,000 | <10 | 500   |
| MK041SS | 38 33 35 | 120 7 0   | 2     | 1.0   | 1.5   | .5    | 700   | <10 | 700   |
| MK042SS | 38 35 45 | 120 4 38  | 2     | 1.0   | 1.5   | .5    | 700   | <10 | 700   |
| MK043SS | 38 36 10 | 119 58 45 | 5     | .7    | 2.0   | .7    | 1,000 | <10 | 700   |
| MK044SS | 38 35 42 | 119 58 42 | 3     | .7    | 1.5   | .5    | 700   | 10  | 1,000 |
| RP500SS | 38 31 40 | 120 0 50  | 5     | 1.0   | 2.0   | .5    | 1,000 | 10  | 1,000 |
| RP501SS | 38 31 28 | 119 58 20 | 7     | 1.0   | 1.0   | .5    | 2,000 | 10  | 500   |
| RP502SS | 38 32 48 | 119 57 13 | 5     | 1.5   | 2.0   | .7    | 1,500 | 10  | 1,000 |
| RP503SS | 38 32 32 | 119 56 33 | 5     | 1.0   | 1.5   | .5    | 1,000 | <10 | 1,000 |
| RP504SS | 38 38 53 | 119 59 10 | 5     | .7    | 1.0   | .5    | 500   | 50  | 1,000 |
| RP505SS | 38 38 43 | 119 59 10 | 3     | .5    | 1.0   | .5    | 500   | 10  | 1,000 |
| RP506SS | 38 34 50 | 119 53 27 | 5     | 1.0   | 1.5   | .7    | 1,000 | 10  | 1,000 |
| RP507SS | 38 36 17 | 119 57 50 | 3     | .5    | 1.5   | .5    | 700   | <10 | 700   |
| RP508SS | 38 36 17 | 119 57 30 | 7     | 1.0   | 2.0   | .7    | 1,000 | <10 | 300   |
| RP509SS | 38 37 41 | 119 57 19 | 3     | .5    | 1.0   | .5    | 700   | 10  | 380   |
| RP510SS | 38 29 6  | 120 1 0   | 3     | 1.5   | 2.0   | .5    | 500   | <10 | 300   |
| RP511SS | 38 29 1  | 119 59 51 | 3     | 2.0   | 3.0   | .5    | 700   | 10  | 300   |
| RP512SS | 38 29 43 | 119 58 47 | 3     | 3.0   | 7.0   | .7    | 1,000 | 20  | 500   |
| RP516SS | 38 35 30 | 119 53 5  | 2     | 1.5   | 5.0   | .5    | 500   | <10 | 200   |
| RP517SS | 38 35 29 | 119 53 2  | 2     | 2.0   | 5.0   | .5    | 1,000 | <10 | 500   |
| RP518SS | 38 35 11 | 119 51 38 | 3     | 2.0   | 5.0   | .5    | 700   | <10 | 500   |
| RP519SS | 38 34 58 | 119 52 0  | 5     | 2.0   | 5.0   | .7    | 700   | <10 | 500   |
| TE500SS | 38 35 55 | 120 8 7   | 5     | 1.0   | 2.0   | .7    | 1,000 | <10 | 1,000 |
| TE501SS | 38 36 5  | 120 8 2   | 5     | 1.5   | 3.0   | .7    | 1,500 | <10 | 1,000 |
| TE502SS | 38 36 0  | 120 7 53  | 5     | 1.0   | 2.0   | .5    | 1,000 | 10  | 1,000 |
| TE503SS | 38 36 55 | 120 10 48 | 3     | 1.0   | 2.0   | .5    | 1,000 | <10 | 500   |
| TE504SS | 38 37 5  | 120 10 48 | 5     | 1.0   | 2.0   | .5    | 1,000 | <10 | 700   |
| TE505SS | 38 36 37 | 120 11 28 | 3     | 1.0   | 2.0   | .5    | 1,000 | 10  | 700   |
| TE506SS | 38 36 42 | 120 11 37 | 3     | 1.0   | 2.0   | .5    | 1,000 | 10  | 700   |
| TE507SS | 38 35 15 | 120 11 52 | 5     | 1.0   | 2.0   | .5    | 700   | 10  | 1,000 |
| TE508SS | 38 35 22 | 120 12 0  | 3     | 1.0   | 2.0   | .5    | 1,000 | <10 | 500   |
| TE509SS | 38 34 57 | 120 12 0  | 7     | 1.0   | 2.0   | .7    | 2,000 | 10  | 300   |
| TE510SS | 38 34 25 | 120 11 55 | 7     | 1.0   | 2.0   | .7    | 1,000 | <10 | 700   |
| TE511SS | 38 34 40 | 120 12 30 | 5     | 1.0   | 2.0   | .5    | 1,000 | <10 | 700   |
| TE512SS | 38 34 40 | 120 12 37 | 5     | 1.0   | 2.0   | .5    | 1,000 | 20  | 1,000 |
| TE513SS | 38 39 20 | 120 4 55  | 5     | 1.0   | 2.0   | .5    | 1,500 | 10  | 500   |
| TE514SS | 38 39 7  | 120 4 57  | 5     | 1.0   | 2.0   | .5    | 1,000 | 15  | 500   |
| TE515SS | 38 41 41 | 120 0 49  | 5     | 1.0   | 2.0   | .5    | 1,000 | 10  | 1,000 |
| TE516SS | 38 41 0  | 120 0 40  | 7     | 1.5   | 2.0   | .5    | 1,500 | 30  | 500   |

Table 3.--Data for stream-sediment samples, Mokelumne Wilderness and adjacent study areas, California--continued

| sample  | S-BE | S-CO | S-CR | S-CU | S-LA | S-MO | S-NB | S-NI | S-PB |
|---------|------|------|------|------|------|------|------|------|------|
| MK033SS | <1.0 | 20   | 70   | 20   | 30   | 5    | N    | <5   | 50   |
| MK034SS | 1.5  | 10   | 20   | 7    | 30   | <5   | N    | 5    | 30   |
| MK035SS | 1.5  | 10   | 20   | 5    | 50   | <5   | <20  | <5   | 50   |
| MK036SS | <1.0 | 20   | 150  | 20   | 30   | <5   | N    | 20   | 30   |
| MK037SS | <1.0 | 20   | 70   | 15   | 30   | 5    | N    | 30   | 20   |
| MK038SS | 1.0  | 7    | 20   | 7    | 30   | <5   | N    | 5    | 50   |
| MK039SS | <1.0 | 10   | 50   | 10   | 30   | 5    | N    | 15   | 50   |
| MK041SS | 1.0  | 10   | 50   | 20   | 50   | 7    | N    | 10   | 50   |
| MK042SS | <1.0 | 10   | 50   | 10   | 50   | 5    | N    | 10   | 50   |
| MK043SS | 1.0  | 10   | 30   | 10   | 100  | 5    | <20  | 5    | 50   |
| MK044SS | 1.0  | 7    | 20   | 10   | 50   | 5    | N    | <5   | 50   |
| RP500SS | <1.0 | 20   | 70   | 20   | 30   | <5   | N    | 30   | 30   |
| RP501SS | 1.0  | 30   | 50   | 20   | 50   | 10   | N    | 20   | 50   |
| RP502SS | <1.0 | 30   | 100  | 20   | 30   | <5   | N    | 30   | 30   |
| RP503SS | 1.0  | 7    | 30   | 10   | 50   | 5    | N    | 10   | 50   |
| RP504SS | <1.0 | 10   | 50   | 70   | 50   | 10   | N    | 10   | 50   |
| RP505SS | 1.0  | 7    | 20   | 5    | 50   | 7    | N    | 5    | 50   |
| RP506SS | <1.0 | 20   | 70   | 30   | 50   | N    | N    | 30   | 30   |
| RP507SS | 1.0  | 5    | 15   | 7    | 70   | 5    | N    | 5    | 70   |
| RP508SS | <1.0 | 15   | 10   | 10   | 50   | 5    | N    | 5    | 50   |
| RP509SS | 1.0  | 10   | 10   | 10   | 50   | N    | N    | <5   | 50   |
| RP510SS | 1.0  | 20   | 70   | 15   | 30   | N    | N    | 20   | 30   |
| RP511SS | <1.0 | 20   | 100  | 15   | 20   | N    | N    | 30   | 20   |
| RP512SS | <1.0 | 20   | 100  | 20   | 30   | N    | N    | 20   | 20   |
| RP516SS | <1.0 | 10   | <10  | 7    | 20   | <5   | N    | 5    | 15   |
| RP517SS | <1.0 | 20   | 50   | 15   | 30   | N    | N    | 15   | 20   |
| RP518SS | <1.0 | 20   | 70   | 15   | 30   | N    | N    | 15   | 20   |
| RP519SS | <1.0 | 30   | 100  | 20   | 30   | N    | N    | 20   | 20   |
| TE500SS | 1.0  | 20   | 70   | 20   | 30   | N    | N    | 20   | 30   |
| TE501SS | <1.0 | 30   | 70   | 30   | 20   | N    | N    | 30   | 30   |
| TE502SS | <1.0 | 15   | 70   | 20   | 30   | N    | N    | 30   | 30   |
| TE503SS | 1.0  | 10   | 50   | 10   | 30   | 5    | N    | 15   | 30   |
| TE504SS | 1.0  | 15   | 50   | 10   | 30   | 5    | N    | 20   | 30   |
| TE505SS | <1.0 | 15   | 50   | 15   | 20   | 5    | N    | 20   | 30   |
| TE506SS | <1.0 | 15   | 50   | 10   | 50   | N    | N    | 20   | 20   |
| TE507SS | 1.0  | 20   | 70   | 15   | 30   | <5   | N    | 50   | 30   |
| TE508SS | 1.0  | 15   | 50   | 10   | 50   | 5    | N    | 20   | 30   |
| TE509SS | <1.0 | 20   | 50   | 30   | 70   | 5    | <20  | 15   | 30   |
| TE510SS | <1.0 | 20   | 100  | 20   | 30   | 5    | N    | 30   | 30   |
| TE511SS | 1.0  | 20   | 70   | 15   | 50   | <5   | N    | 50   | 30   |
| TE512SS | 1.0  | 20   | 50   | 10   | 70   | <5   | N    | 20   | 30   |
| TE513SS | 1.0  | 10   | 30   | 10   | 30   | <5   | N    | 10   | 50   |
| TE514SS | 1.0  | 15   | 50   | 7    | 30   | 5    | N    | 15   | 30   |
| TE515SS | <1.0 | 20   | 100  | 15   | 50   | <5   | N    | 30   | 30   |
| TE516SS | <1.0 | 50   | 70   | 50   | 50   | 5    | N    | 50   | 50   |

Table 3.--Data for stream-sediment samples, Mokelumne Wilderness and adjacent study areas, California--continued

| sample  | S-SC | S-SR  | S-V | S-Y | S-ZR | AA-ZN-P | AA-CD-P | AA-BI-P | AA-SB-P | CM-AS |
|---------|------|-------|-----|-----|------|---------|---------|---------|---------|-------|
| MK033SS | 10   | 500   | 300 | 20  | 500  | 75      | N       | 1.0     | 2       | N     |
| MK034SS | 10   | 500   | 100 | 20  | 100  | 40      | N       | N       | 1       | N     |
| MK035SS | 15   | 500   | 100 | 70  | 200  | 50      | <.05    | N       | 2       | N     |
| MK036SS | 15   | 700   | 150 | 15  | 100  | 45      | N       | <.5     | 2       | N     |
| MK037SS | 15   | 700   | 200 | 15  | 70   | 40      | <.05    | N       | <1      | N     |
| MK038SS | 7    | 700   | 100 | 15  | 70   | 35      | N       | <.5     | 1       | N     |
| MK039SS | 7    | 500   | 100 | 10  | 100  | 40      | N       | N       | 2       | N     |
| MK041SS | 10   | 700   | 150 | 15  | 70   | 60      | .10     | <.5     | 2       | N     |
| MK042SS | 7    | 500   | 100 | 10  | 70   | 40      | N       | N       | 1       | N     |
| MK043SS | 10   | 500   | 150 | 50  | 200  | 70      | .10     | <.5     | 5       | N     |
| MK044SS | 10   | 500   | 100 | 20  | 200  | 85      | .15     | <.5     | 5       | N     |
| RP500SS | 15   | 700   | 200 | 20  | 100  | 50      | .10     | <.5     | 2       | N     |
| RP501SS | 10   | 500   | 150 | 20  | 100  | 55      | .20     | <.5     | 2       | N     |
| RP502SS | 20   | 500   | 200 | 20  | 150  | 40      | .10     | <.5     | 2       | N     |
| RP503SS | 7    | 500   | 150 | 20  | 70   | 45      | .10     | <.5     | 2       | N     |
| RP504SS | 7    | 500   | 150 | 15  | 100  | 55      | .20     | <.5     | 2       | N     |
| RP505SS | 5    | 300   | 70  | 15  | 100  | 80      | .20     | N       | 2       | N     |
| RP506SS | 15   | 700   | 200 | 20  | 150  | 50      | .15     | 1.0     | 3       | N     |
| RP507SS | 5    | 500   | 100 | 20  | 100  | 60      | .20     | <.5     | 3       | <10   |
| RP508SS | 10   | 500   | 150 | 30  | 100  | 60      | .25     | <.5     | 2       | N     |
| RP509SS | 7    | 300   | 100 | 10  | 150  | 70      | .35     | .5      | 1       | N     |
| RP510SS | 15   | 300   | 100 | 10  | 70   | 40      | .25     | N       | 1       | N     |
| RP511SS | 15   | 500   | 150 | 10  | 100  | 35      | .25     | .5      | <1      | N     |
| RP512SS | 20   | 700   | 200 | 15  | 100  | 35      | .25     | .5      | 1       | N     |
| RP516SS | 10   | 500   | 70  | 10  | 70   | 35      | .25     | <.5     | 1       | N     |
| RP517SS | 15   | 500   | 150 | 10  | 100  | 45      | .25     | <.5     | 1       | N     |
| RP518SS | 15   | 700   | 150 | 10  | 100  | 40      | .25     | <.5     | 1       | N     |
| RP519SS | 20   | 700   | 200 | 10  | 100  | 40      | .25     | N       | <1      | N     |
| TE500SS | 20   | 700   | 200 | 15  | 100  | 50      | N       | 1.5     | 2       | N     |
| TE501SS | 20   | 1,000 | 200 | 10  | 70   | 45      | .10     | N       | 2       | N     |
| TE502SS | 7    | 700   | 150 | 10  | 70   | 45      | N       | 1.0     | 2       | N     |
| TE503SS | 10   | 500   | 150 | 20  | 100  | 30      | N       | 2.0     | 2       | N     |
| TE504SS | 15   | 500   | 150 | 15  | 100  | 25      | N       | 1.0     | 2       | N     |
| TE505SS | 10   | 500   | 100 | 20  | 70   | 35      | N       | 2.0     | 2       | N     |
| TE506SS | 15   | 700   | 150 | 20  | 150  | 20      | N       | 2.0     | 2       | N     |
| TE507SS | 10   | 700   | 150 | 15  | 100  | 45      | .05     | <.5     | 2       | N     |
| TE508SS | 15   | 500   | 100 | 20  | 50   | 25      | .10     | <.5     | 2       | N     |
| TE509SS | 20   | 500   | 200 | 50  | 150  | 50      | .15     | <.5     | 2       | N     |
| TE510SS | 20   | 500   | 200 | 30  | 150  | 40      | N       | 1.0     | 2       | N     |
| TE511SS | 15   | 500   | 150 | 20  | 150  | 45      | N       | <.5     | 2       | N     |
| TE512SS | 15   | 700   | 150 | 20  | 70   | 40      | N       | 1.0     | 2       | N     |
| TE513SS | 7    | 500   | 100 | 15  | 100  | 50      | .10     | <.5     | 3       | N     |
| TE514SS | 15   | 500   | 150 | 15  | 100  | 30      | <.05    | <.5     | 3       | N     |
| TE515SS | 10   | 700   | 150 | 20  | 100  | 35      | .05     | <.5     | 3       | N     |
| TE516SS | 15   | 500   | 200 | 20  | 150  | 75      | .55     | .5      | 5       | N     |

Table 3.--Data for stream-sediment samples, Mokelumne Wilderness and adjacent study areas, California--continued

| sample   | LATITUDE | LONGITUDE | S-FEX | S-MGX | S-CAX | S-TIX | S-MN  | S-B | S-BA  |
|----------|----------|-----------|-------|-------|-------|-------|-------|-----|-------|
| TE517SS  | 38 40 53 | 120 0 17  | 5     | .7    | 1.5   | .5    | 1,000 | <10 | 1,000 |
| TE518SS  | 38 41 48 | 120 4 22  | 5     | 1.5   | 3.0   | .5    | 1,500 | <10 | 1,000 |
| TE519SS  | 38 41 47 | 120 7 5   | 7     | 2.0   | 3.0   | .7    | 2,000 | <10 | 1,000 |
| TE520SS  | 38 41 33 | 120 7 10  | 5     | 1.5   | 3.0   | .7    | 1,500 | 10  | 1,000 |
| TE521SS  | 38 40 57 | 120 2 15  | 3     | .7    | 1.5   | .5    | 700   | 10  | 700   |
| TE522SS  | 38 40 58 | 120 2 7   | 5     | 1.5   | 3.0   | .7    | 1,000 | 10  | 1,000 |
| TE523SS  | 38 38 7  | 120 7 17  | 2     | 1.0   | 2.0   | .3    | 1,000 | N   | 500   |
| TE524SS  | 38 39 20 | 120 6 23  | 5     | 2.0   | 2.0   | .7    | 1,000 | <10 | 500   |
| TE525SS  | 38 39 37 | 120 6 25  | 5     | 1.5   | 3.0   | .7    | 1,000 | <10 | 1,000 |
| TE526SS  | 38 41 7  | 119 57 40 | 7     | 1.0   | 2.0   | .7    | 1,000 | <10 | 1,000 |
| TE527SS  | 38 40 45 | 119 57 40 | 2     | 1.0   | 1.5   | .5    | 700   | <10 | 700   |
| WL0448SS | 38 40 40 | 119 56 1  | 5     | 1.5   | 2.0   | .5    | 1,000 | 30  | 1,000 |
| WL0450SS | 38 38 53 | 119 59 40 | 3     | 1.0   | 2.0   | .5    | 1,000 | 70  | 1,000 |
| WL0451SS | 38 34 34 | 119 54 35 | 5     | 2.0   | 5.0   | .7    | 1,000 | 20  | 1,000 |
| WL0452SS | 38 34 36 | 119 54 40 | 5     | 1.5   | 3.0   | 1.0   | 1,000 | 20  | 1,000 |
| WL0453SS | 38 34 38 | 119 59 52 | 10    | 2.0   | 3.0   | 1.0   | 1,500 | <10 | 700   |
| WL0454SS | 38 34 53 | 119 59 40 | 5     | 1.0   | 2.0   | .7    | 1,000 | 20  | 1,000 |
| WL0455SS | 38 33 53 | 119 58 57 | 5     | 2.0   | 5.0   | .5    | 1,000 | 20  | 1,500 |
| WL0456SS | 38 33 20 | 119 58 6  | 5     | 2.0   | 3.0   | 1.0   | 1,000 | 20  | 1,000 |
| WL0457SS | 38 33 31 | 119 57 37 | 7     | 1.5   | 3.0   | 1.0   | 1,000 | 10  | 700   |
| WL0458SS | 38 32 39 | 119 55 45 | 10    | 1.5   | 5.0   | 1.0   | 1,000 | 10  | 2,000 |
| WL0459SS | 38 32 21 | 119 55 44 | 5     | 1.5   | 3.0   | .5    | 1,000 | 30  | 1,000 |
| WL0611SS | 38 28 56 | 119 59 12 | 5     | 2.0   | 2.0   | .7    | 1,000 | 20  | 700   |
| WL0613SS | 38 32 45 | 119 52 44 | 3     | 1.5   | 1.5   | .5    | 1,000 | 10  | 700   |
| WL0615SS | 38 33 15 | 119 50 55 | 5     | 1.5   | 2.0   | .7    | 700   | <10 | 700   |

Table 3.--Data for stream-sediment samples, Mokelumne Wilderness and adjacent study areas, California--continued

| sample   | S-BE | S-CO | S-CR | S-CU | S-LA | S-MO | S-NB | S-NI | S-PB |
|----------|------|------|------|------|------|------|------|------|------|
| TE517SS  | <1.0 | 10   | 50   | 10   | 30   | 7    | N    | 10   | 50   |
| TE518SS  | 1.0  | 20   | 70   | 20   | 50   | N    | N    | 15   | 30   |
| TE519SS  | <1.0 | 30   | 100  | 30   | 50   | N    | N    | 30   | 20   |
| TE520SS  | <1.0 | 30   | 70   | 30   | 30   | N    | N    | 20   | 20   |
| TE521SS  | <1.0 | 10   | 50   | 20   | 30   | 5    | N    | 10   | 30   |
| TE522SS  | <1.0 | 20   | 70   | 20   | 50   | 5    | N    | 30   | 30   |
| TE523SS  | 1.0  | 7    | 20   | 5    | 20   | <5   | N    | 7    | 50   |
| TE524SS  | <1.0 | 20   | 50   | 10   | 30   | <5   | N    | 10   | 30   |
| TE525SS  | 1.0  | 20   | 50   | 15   | 30   | <5   | N    | 20   | 30   |
| TE526SS  | <1.0 | 20   | 100  | 20   | 30   | N    | N    | 20   | 30   |
| TE527SS  | <1.0 | 10   | 50   | 10   | 50   | <5   | N    | 10   | 50   |
| WL0448SS | 2.0  | 15   | 50   | 20   | 50   | 15   | N    | 20   | 30   |
| WL0450SS | 3.0  | 10   | 15   | 20   | 50   | 10   | <20  | N    | 50   |
| WL0451SS | 1.5  | 20   | 70   | 20   | 30   | 5    | <20  | 20   | 20   |
| WL0452SS | 2.0  | 20   | N    | 20   | 50   | 7    | N    | N    | 20   |
| WL0453SS | 2.0  | 30   | 50   | 20   | 50   | N    | <20  | 20   | 30   |
| WL0454SS | 2.0  | 15   | 20   | 5    | 70   | N    | N    | N    | 30   |
| WL0455SS | 2.0  | 20   | 30   | 20   | 30   | N    | <20  | 10   | 20   |
| WL0456SS | 2.0  | 20   | 50   | 20   | 30   | 7    | N    | 20   | 20   |
| WL0457SS | 2.0  | 20   | 10   | 10   | 50   | N    | N    | 5    | 20   |
| WL0458SS | 2.0  | 30   | 50   | 20   | 50   | N    | N    | 20   | 20   |
| WL0459SS | 2.0  | 20   | 50   | 20   | 30   | <5   | <20  | 20   | 20   |
| WL0611SS | <1.0 | 20   | 150  | 20   | 20   | N    | N    | 30   | 20   |
| WL0613SS | 1.0  | 20   | 100  | 15   | 30   | N    | N    | 30   | 30   |
| WL0615SS | <1.0 | 20   | 100  | 20   | 30   | N    | N    | 20   | 30   |

Table 3.--Data for stream-sediment samples, Mokelumne Wilderness and adjacent study areas, California--continued

| sample   | S-SC | S-SR  | S-V   | S-Y | S-ZR  | AA-2N-P | AA-CD-P | AA-BI-P | AA-SB-P | CM-AS |
|----------|------|-------|-------|-----|-------|---------|---------|---------|---------|-------|
| TE517SS  | 7    | 500   | 150   | 20  | 150   | 55      | .20     | <.5     | 2       | N     |
| TE518SS  | 15   | 700   | 200   | 15  | 70    | 60      | .10     | <.5     | 3       | N     |
| TE519SS  | 30   | 700   | 300   | 20  | 70    | 35      | .05     | .5      | 2       | N     |
| TE520SS  | 30   | 700   | 300   | 20  | 100   | 80      | <.05    | .5      | 2       | N     |
| TE521SS  | 10   | 500   | 150   | 20  | 100   | 35      | N       | 1.0     | 3       | N     |
| TE522SS  | 20   | 1,000 | 200   | 20  | 150   | 40      | .10     | <.5     | 2       | N     |
| TE523SS  | 5    | 700   | 100   | 10  | 100   | 30      | .10     | N       | 2       | N     |
| TE524SS  | 20   | 700   | 200   | 15  | 50    | 35      | .10     | N       | 2       | N     |
| TE525SS  | 20   | 1,000 | 200   | 15  | 70    | 45      | <.05    | <.5     | 2       | N     |
| TE526SS  | 7    | 1,000 | 300   | 15  | 70    | 55      | .15     | N       | 3       | N     |
| TE527SS  | 7    | 700   | 150   | 15  | 150   | 50      | .25     | N       | 3       | N     |
| WL0448SS | 10   | 700   | 300   | 20  | 500   | 70      | .25     | <.5     | 2       | N     |
| WL0450SS | 10   | 500   | 150   | 20  | 500   | 100     | .25     | .5      | 2       | N     |
| WL0451SS | 20   | 700   | 200   | 20  | 100   | 50      | .10     | N       | 2       | N     |
| WL0452SS | 15   | 500   | 300   | 30  | 500   | 60      | .15     | .5      | 2       | N     |
| WL0453SS | 15   | 500   | 1,000 | 50  | 1,000 | 45      | .10     | <.5     | 2       | N     |
| WL0454SS | 10   | 500   | 200   | 30  | 700   | 70      | .30     | .5      | 5       | N     |
| WL0455SS | 15   | 1,000 | 300   | 30  | 700   | 55      | .20     | <.5     | 2       | N     |
| WL0456SS | 20   | 500   | 500   | 30  | 500   | 35      | .24     | 2.5     | 2       | N     |
| WL0457SS | 20   | 700   | 500   | 30  | 700   | 45      | .05     | .5      | 2       | N     |
| WL0458SS | 20   | 500   | 700   | 30  | 700   | 45      | <.05    | <.5     | 2       | N     |
| WL0459SS | 10   | 500   | 200   | 20  | 300   | 55      | .20     | .5      | 2       | N     |
| WL0611SS | 20   | 500   | 300   | 30  | 150   | 35      | <.05    | N       | 2       | N     |
| WL0613SS | 15   | 500   | 300   | 30  | 200   | 55      | .10     | N       | 2       | N     |
| WL0615SS | 15   | 700   | 300   | 20  | 150   | 50      | .15     | <.5     | <1      | N     |



Table 4.--Data for concentrate samples, Mokelumne Wilderness and adjacent study areas, California

| sample  | LATITUDE | LONGITUDE | S-FEX | S-MGX | S-CAZ | S-TIX | S-MN  | S-AG | S-AS | S-AU | S-B |
|---------|----------|-----------|-------|-------|-------|-------|-------|------|------|------|-----|
| CC001KN | 38 39 17 | 120 11 28 | 2.0   | 5.00  | 10    | 2.0   | 1,500 | N    | N    | N    | N   |
| CC002KN | 38 41 23 | 120 11 2  | 1.5   | 5.00  | 10    | 2.0   | 1,000 | N    | N    | N    | N   |
| CC003KN | 38 41 35 | 120 10 52 | 1.0   | 5.00  | 7     | 2.0   | 1,000 | N    | N    | N    | N   |
| CC004KN | 38 42 48 | 120 7 59  | .7    | 3.00  | 7     | >2.0  | 700   | N    | N    | N    | <20 |
| CC005KN | 38 42 40 | 120 7 52  | 3.0   | 5.00  | 10    | 2.0   | 1,500 | N    | N    | N    | 20  |
| CC006KN | 38 43 7  | 120 4 37  | 2.0   | 5.00  | 7     | >2.0  | 1,500 | N    | N    | N    | N   |
| CC007KN | 38 42 35 | 120 5 30  | 2.0   | 5.00  | 10    | 1.5   | 700   | N    | N    | N    | 20  |
| CC008KN | 38 42 27 | 120 5 35  | 3.0   | 7.00  | 15    | 1.0   | 1,000 | N    | N    | N    | <20 |
| CC009KN | 38 40 25 | 120 7 26  | 2.0   | 5.00  | 10    | 2.0   | 1,500 | N    | N    | N    | 70  |
| CC010KN | 38 40 45 | 120 7 5   | 3.0   | 10.00 | 15    | .5    | 1,500 | N    | N    | N    | <20 |
| CC011KN | 38 38 53 | 120 10 27 | .7    | 2.00  | 7     | >2.0  | 1,500 | N    | N    | N    | N   |
| CC012KN | 38 40 7  | 120 10 35 | .5    | 1.00  | 7     | >2.0  | 1,000 | N    | N    | N    | N   |
| CC013KN | 38 39 57 | 120 9 52  | .7    | 1.50  | 7     | >2.0  | 1,000 | N    | N    | N    | N   |
| CC015KN | 38 41 17 | 120 8 7   | 3.0   | 5.00  | 7     | 1.0   | 1,500 | N    | N    | N    | <20 |
| CC016KN | 38 44 42 | 120 6 2   | .5    | .30   | 7     | >2.0  | 1,000 | N    | N    | N    | <20 |
| DA006KN | 38 41 52 | 119 58 50 | 2.0   | 3.00  | 7     | 2.0   | 1,500 | N    | N    | N    | 100 |
| DA009KN | 38 45 35 | 120 6 6   | .5    | .30   | 15    | >2.0  | 1,000 | N    | N    | N    | 20  |
| MK001KN | 38 29 35 | 120 8 15  | 2.0   | 3.00  | 7     | 2.0   | 1,500 | N    | N    | N    | N   |
| MK002KN | 38 29 35 | 120 8 7   | .7    | 2.00  | 10    | >2.0  | 1,000 | N    | N    | N    | <20 |
| MK003KN | 38 29 40 | 120 7 8   | 3.0   | 5.00  | 7     | >2.0  | 1,500 | N    | N    | N    | <20 |
| MK004KN | 38 30 35 | 120 3 30  | 1.0   | 2.00  | 7     | >2.0  | 1,500 | N    | N    | N    | 20  |
| MK005KN | 38 30 32 | 120 3 37  | .7    | 1.00  | 7     | >2.0  | 1,000 | N    | N    | N    | N   |
| MK006KN | 38 31 22 | 120 3 0   | .5    | 1.00  | 7     | >2.0  | 1,000 | N    | N    | N    | N   |
| MK007KN | 38 32 35 | 120 1 55  | 2.0   | 3.00  | 10    | >2.0  | 2,000 | N    | N    | N    | <20 |
| MK008KN | 38 32 43 | 120 1 51  | .5    | .20   | 5     | >2.0  | 500   | N    | N    | N    | N   |
| MK010KN | 38 34 22 | 120 0 52  | .7    | 1.00  | 7     | >2.0  | 1,000 | N    | N    | N    | N   |
| MK011KN | 38 29 53 | 120 7 41  | .3    | .15   | 7     | >2.0  | 700   | N    | N    | N    | N   |
| MK012KN | 38 30 28 | 120 5 50  | .2    | <.05  | 3     | >2.0  | 700   | N    | N    | N    | 30  |
| MK013KN | 38 30 40 | 120 4 45  | .5    | .05   | 7     | >2.0  | 1,000 | N    | N    | N    | N   |
| MK014KN | 38 31 10 | 120 3 40  | .5    | .05   | 1     | >2.0  | 500   | N    | N    | N    | <20 |
| MK015KN | 38 32 22 | 120 3 20  | .2    | .20   | 5     | >2.0  | 500   | N    | N    | N    | N   |
| MK016KN | 38 33 42 | 120 2 35  | .7    | 1.00  | 7     | >2.0  | 1,000 | N    | N    | N    | 20  |
| MK017KN | 38 34 32 | 120 2 15  | .5    | .50   | 5     | >2.0  | 300   | N    | N    | 700  | 70  |
| MK018KN | 38 34 17 | 120 2 22  | .5    | .20   | 7     | >2.0  | 1,000 | N    | N    | N    | N   |
| MK019KN | 38 34 40 | 120 0 45  | .2    | .10   | 5     | >2.0  | 700   | N    | N    | N    | N   |
| MK020KN | 38 34 37 | 119 56 53 | .5    | .20   | 7     | >2.0  | 1,000 | N    | <500 | N    | N   |
| MK024KN | 38 35 38 | 120 2 25  | .2    | .20   | 7     | >2.0  | 1,000 | N    | N    | N    | 20  |
| MK025KN | 38 37 20 | 120 2 7   | .5    | .20   | 5     | >2.0  | 700   | N    | N    | N    | <20 |
| MK026KN | 38 37 15 | 120 2 10  | .5    | .20   | 7     | >2.0  | 1,500 | N    | N    | N    | <20 |
| MK027KN | 38 37 43 | 120 1 47  | .7    | .20   | 7     | >2.0  | 700   | N    | N    | N    | 20  |
| MK028KN | 38 32 50 | 120 8 39  | 1.5   | 2.00  | 7     | 2.0   | 1,000 | N    | N    | N    | <20 |
| MK029KN | 38 32 49 | 120 8 30  | 1.0   | 2.00  | 10    | >2.0  | 1,500 | N    | N    | N    | N   |
| MK030KN | 38 33 41 | 120 7 3   | 1.0   | 2.00  | 7     | >2.0  | 1,500 | N    | N    | N    | <20 |
| MK031KN | 38 36 0  | 120 0 7   | .2    | .10   | 7     | >2.0  | 1,500 | N    | N    | N    | N   |
| MK032KN | 38 36 45 | 120 1 50  | .5    | .15   | 5     | >2.0  | 1,000 | N    | N    | N    | N   |

Table 4.--Data for concentrate samples, Mokelumne Wilderness and adjacent study areas, California

| sample  | S-BA  | S-BE | S-BI | S-CD | S-CO | S-CR  | S-CU | S-LA   | S-MO | S-NB | S-NI |
|---------|-------|------|------|------|------|-------|------|--------|------|------|------|
| CC001KN | 100   | N    | N    | N    | 30   | 1,000 | <10  | 300    | 10   | 50   | 70   |
| CC002KN | 50    | N    | N    | N    | 50   | 300   | 10   | 300    | 150  | 50   | 30   |
| CC003KN | 100   | N    | N    | N    | 20   | 700   | 15   | 300    | <10  | <50  | 30   |
| CC004KN | 100   | N    | N    | N    | 20   | 500   | 10   | 500    | 15   | <50  | 50   |
| CC005KN | 200   | N    | N    | N    | 30   | 1,000 | 15   | 200    | 10   | 50   | 100  |
| CC006KN | <50   | N    | N    | N    | 20   | 1,000 | 10   | 500    | 20   | 100  | 70   |
| CC007KN | 70    | N    | N    | N    | 30   | 500   | 10   | 300    | <10  | <50  | 50   |
| CC008KN | 150   | N    | N    | N    | 50   | 700   | 15   | 100    | N    | 70   | 100  |
| CC009KN | 150   | N    | N    | N    | 30   | 500   | 10   | 200    | 20   | 300  | 70   |
| CC010KN | 70    | N    | N    | N    | 50   | 700   | 10   | 70     | N    | N    | 70   |
| CC011KN | 100   | N    | N    | N    | 20   | 300   | 10   | 1,000  | 30   | 150  | 30   |
| CC012KN | 50    | N    | N    | N    | 20   | 150   | 15   | 1,000  | 30   | 70   | 20   |
| CC013KN | 50    | N    | N    | N    | 20   | 200   | <10  | 700    | 20   | 50   | 20   |
| CC015KN | 50    | N    | N    | N    | 50   | 1,000 | 10   | 100    | 150  | <50  | 100  |
| CC016KN | 1,000 | N    | N    | N    | 10   | 70    | 10   | 1,000  | 50   | 70   | N    |
| DA006KN | 70    | N    | N    | N    | 30   | 2,000 | 20   | 500    | 70   | 100  | 150  |
| DA409KN | 50    | N    | N    | N    | <10  | 70    | N    | 1,000  | 30   | 100  | N    |
| MK001KN | 50    | N    | N    | N    | 50   | 1,000 | 10   | 200    | 30   | 100  | 100  |
| MK002KN | 70    | N    | N    | N    | 15   | 700   | <10  | 500    | 15   | 100  | 50   |
| MK003KN | 50    | N    | N    | N    | 50   | 1,000 | <10  | 500    | 15   | 100  | 100  |
| MK004KN | 50    | N    | N    | N    | 20   | 1,000 | <10  | 700    | 20   | 100  | 100  |
| MK005KN | 50    | N    | N    | N    | 10   | 150   | <10  | 1,000  | 30   | 100  | N    |
| MK006KN | 50    | N    | N    | N    | 50   | 150   | 10   | 1,000  | 50   | 50   | 20   |
| MK007KN | 50    | N    | N    | N    | 30   | 1,000 | <10  | 300    | 15   | 100  | 150  |
| MK008KN | 300   | N    | N    | N    | <10  | 50    | 15   | 500    | 20   | 100  | N    |
| MK010KN | 50    | N    | N    | N    | 20   | 200   | 10   | 700    | 30   | <50  | 20   |
| MK011KN | 300   | N    | N    | N    | 15   | 30    | N    | 2,000  | 10   | 70   | N    |
| MK012KN | 50    | N    | N    | N    | <10  | <20   | <10  | 1,500  | 10   | 100  | N    |
| MK013KN | 50    | N    | N    | N    | 20   | 20    | <10  | >2,000 | 100  | 200  | N    |
| MK014KN | <50   | N    | N    | N    | 15   | 50    | 50   | 2,000  | 10   | 70   | N    |
| MK015KN | 70    | N    | N    | N    | 10   | 50    | <10  | 700    | 10   | 100  | N    |
| MK016KN | 50    | N    | N    | N    | 20   | 150   | 20   | 700    | 30   | 200  | 20   |
| MK017KN | 150   | N    | N    | N    | 10   | 70    | 10   | 1,500  | 20   | 50   | N    |
| MK018KN | 300   | N    | N    | N    | 10   | 20    | <10  | 500    | 15   | 70   | N    |
| MK019KN | 70    | N    | N    | N    | 15   | 20    | 10   | >2,000 | 15   | 50   | 20   |
| MK020KN | 70    | N    | N    | N    | 10   | 20    | <10  | 1,000  | 20   | 100  | N    |
| MK024KN | 100   | N    | N    | N    | 20   | 50    | 15   | 1,000  | 100  | 100  | N    |
| MK025KN | 200   | N    | N    | N    | 20   | 20    | 10   | 700    | 50   | 100  | N    |
| MK026KN | 70    | N    | N    | N    | 15   | 30    | 20   | 1,000  | 50   | 100  | N    |
| MK027KN | 500   | N    | N    | N    | 50   | 30    | 150  | 1,500  | 20   | 70   | N    |
| MK028KN | 50    | N    | N    | N    | 15   | 1,000 | 10   | 300    | 10   | 50   | 100  |
| MK029KN | <50   | N    | N    | N    | 15   | 700   | 70   | 1,000  | 50   | 200  | 70   |
| MK030KN | 50    | N    | N    | N    | 30   | 700   | 10   | 500    | 20   | 70   | 100  |
| MK031KN | <50   | N    | N    | N    | 10   | N     | 10   | 1,500  | 70   | 200  | N    |
| MK032KN | 200   | N    | N    | N    | 10   | 20    | <10  | 1,000  | 20   | 100  | N    |

Table 4.--Data for concentrate samples, Mokelumne Wilderness and adjacent study areas, California

| sample  | S-PB | S-SC | S-SN | S-SR | S-V | S-W  | S-Y   | S-ZR   | S-TH   |
|---------|------|------|------|------|-----|------|-------|--------|--------|
| CC001KN | <20  | 70   | 20   | 200  | 300 | N    | 150   | >2,000 | <500   |
| CC002KN | 100  | 100  | 20   | N    | 200 | 500  | 300   | >2,000 | >5,000 |
| CC003KN | 20   | 30   | N    | 200  | 200 | N    | 300   | >2,000 | 1,000  |
| CC004KN | <20  | 50   | 20   | 200  | 200 | N    | 500   | >2,000 | 1,000  |
| CC005KN | <20  | 70   | N    | 500  | 300 | N    | 150   | >2,000 | <500   |
| CC006KN | <20  | 50   | 50   | N    | 300 | N    | 500   | >2,000 | 700    |
| CC007KN | 50   | 100  | <20  | <200 | 200 | N    | 200   | >2,000 | 1,500  |
| CC008KN | <20  | 100  | <20  | 200  | 200 | <100 | 200   | >2,000 | 1,000  |
| CC009KN | 200  | 70   | 150  | <200 | 200 | 100  | 300   | 2,000  | 700    |
| CC010KN | N    | 100  | N    | N    | 300 | N    | 70    | 500    | <500   |
| CC011KN | <20  | 50   | 100  | N    | 300 | N    | 1,000 | 2,000  | 1,000  |
| CC012KN | 30   | 50   | 70   | N    | 300 | N    | 1,500 | >2,000 | 2,000  |
| CC013KN | <20  | 50   | 70   | N    | 200 | N    | 1,500 | >2,000 | 1,000  |
| CC015KN | 20   | 100  | 200  | 200  | 300 | 500  | 100   | >2,000 | 1,500  |
| CC016KN | 50   | 50   | 100  | N    | 300 | N    | 1,000 | >2,000 | 2,000  |
| DA006KN | N    | 70   | 20   | 200  | 300 | 500  | 300   | >2,000 | 500    |
| DA409KN | 150  | 30   | 70   | N    | 300 | N    | 700   | 1,500  | <500   |
| MK001KN | 20   | 100  | <20  | 200  | 300 | N    | 300   | >2,000 | 3,000  |
| MK002KN | N    | 50   | 30   | N    | 300 | <100 | 700   | >2,000 | <500   |
| MK003KN | N    | 70   | 20   | N    | 500 | N    | 300   | >2,000 | <500   |
| MK004KN | 20   | 100  | 30   | <200 | 500 | <100 | 700   | >2,000 | <500   |
| MK005KN | 20   | 50   | 30   | N    | 300 | <100 | 1,500 | >2,000 | 500    |
| MK006KN | 100  | 50   | 50   | <200 | 500 | 100  | 1,000 | >2,000 | 3,000  |
| MK007KN | <20  | 100  | 20   | <200 | 500 | N    | 300   | 2,000  | <500   |
| MK008KN | 20   | 15   | 30   | <200 | 200 | N    | 700   | >2,000 | 700    |
| MK010KN | 50   | 70   | 20   | <200 | 200 | <100 | 700   | >2,000 | 5,000  |
| MK011KN | 50   | 30   | 30   | N    | 300 | N    | 1,000 | >2,000 | 1,000  |
| MK012KN | <20  | 50   | 70   | N    | 200 | <100 | 1,500 | >2,000 | 5,000  |
| MK013KN | 70   | 20   | 50   | N    | 300 | <100 | 1,000 | >2,000 | 1,000  |
| MK014KN | 20   | 70   | 50   | N    | 700 | <100 | 500   | >2,000 | <500   |
| MK015KN | <20  | 20   | 20   | N    | 300 | N    | 700   | >2,000 | 3,000  |
| MK016KN | 50   | 50   | 50   | N    | 500 | 100  | 1,500 | >2,000 | 5,000  |
| MK017KN | <20  | 30   | <20  | N    | 200 | <100 | 2,000 | >2,000 | >5,000 |
| MK018KN | 50   | 20   | 50   | 200  | 300 | N    | 1,000 | >2,000 | 700    |
| MK019KN | 70   | 20   | 50   | N    | 200 | N    | 2,000 | >2,000 | >5,000 |
| MK020KN | 50   | 20   | 70   | N    | 300 | N    | 1,000 | >2,000 | 500    |
| MK024KN | 100  | 20   | 50   | N    | 200 | 100  | 1,500 | >2,000 | >5,000 |
| MK025KN | 50   | 30   | 50   | N    | 200 | 100  | 1,500 | >2,000 | >5,000 |
| MK026KN | 50   | 30   | 100  | N    | 300 | <100 | 2,000 | >2,000 | 5,000  |
| MK027KN | 20   | 30   | 30   | N    | 300 | 150  | 1,500 | >2,000 | >5,000 |
| MK028KN | 50   | 100  | <20  | N    | 300 | N    | 200   | >2,000 | 3,000  |
| MK029KN | <20  | 50   | 70   | N    | 500 | <100 | 1,000 | 1,500  | <500   |
| MK030KN | 20   | 70   | 30   | <200 | 500 | N    | 700   | >2,000 | 2,000  |
| MK031KN | 30   | 50   | 100  | N    | 500 | N    | 2,000 | >2,000 | 700    |
| MK032KN | 50   | 20   | 100  | N    | 500 | N    | 1,500 | >2,000 | 5,000  |

Table 4.--Data for concentrate samples, Mokelumne Wilderness and adjacent study areas, California--continued

| sample  | LATITUDE | LONGITUDE | S-FEX | S-MGX | S-CAZ | S-TIX | S-MN  | S-AG | S-AS | S-AU | S-B   |
|---------|----------|-----------|-------|-------|-------|-------|-------|------|------|------|-------|
| MK033KN | 38 38 47 | 120 0 37  | 2.0   | .50   | 7     | >2.0  | 1,000 | N    | N    | N    | 70    |
| MK034KN | 38 30 52 | 120 9 27  | .5    | .30   | 7     | >2.0  | 700   | N    | N    | N    | 20    |
| MK035KN | 38 32 12 | 120 8 30  | .3    | .20   | 7     | >2.0  | 1,000 | N    | N    | N    | N     |
| MK036KN | 38 34 35 | 120 6 17  | .7    | 1.50  | 7     | >2.0  | 1,000 | N    | N    | N    | N     |
| MK037KN | 38 34 35 | 120 6 12  | 5.0   | 5.00  | 7     | 2.0   | 2,000 | N    | N    | N    | <20   |
| MK038KN | 38 34 33 | 120 4 12  | .2    | 1.00  | 10    | >2.0  | 500   | N    | N    | N    | <20   |
| MK039KN | 38 34 35 | 120 4 18  | 2.0   | 2.00  | 7     | >2.0  | 1,500 | N    | N    | N    | <20   |
| MK041KN | 38 33 35 | 120 7 0   | .5    | 1.00  | 5     | >2.0  | 1,000 | N    | N    | N    | 20    |
| MK042KN | 38 35 45 | 120 4 38  | 3.0   | 5.00  | 7     | >2.0  | 1,500 | N    | N    | N    | 30    |
| MK043KN | 38 36 10 | 119 58 45 | 1.0   | .30   | 7     | >2.0  | 1,000 | N    | N    | N    | N     |
| MK044KN | 38 35 42 | 119 58 42 | .7    | 1.00  | 7     | >2.0  | 1,000 | N    | N    | N    | N     |
| RP500KN | 38 31 40 | 120 0 50  | 3.0   | 3.00  | 10    | >2.0  | 2,000 | N    | N    | N    | <20   |
| RP501KN | 38 31 28 | 119 58 20 | 3.0   | 3.00  | 20    | >2.0  | 2,000 | N    | N    | N    | <20   |
| RP502KN | 38 32 48 | 119 57 13 | 2.0   | 3.00  | 10    | 2.0   | 1,500 | N    | N    | N    | <20   |
| RP503KN | 38 32 32 | 119 56 33 | .5    | .70   | 10    | >2.0  | 1,500 | N    | N    | N    | <20   |
| RP504KN | 38 38 53 | 119 59 10 | 30.0  | .10   | 2     | 2.0   | 200   | N    | N    | N    | 1,000 |
| RP505KN | 38 38 43 | 119 59 10 | 1.0   | 1.50  | 7     | >2.0  | 1,000 | N    | N    | N    | 70    |
| RP506KN | 38 34 50 | 119 53 27 | 1.0   | 3.00  | 10    | 1.5   | 700   | N    | N    | N    | N     |
| RP507KN | 38 36 17 | 119 57 50 | .5    | .05   | 15    | >2.0  | 700   | N    | N    | N    | 20    |
| RP508KN | 38 36 17 | 119 57 30 | .5    | .20   | 7     | >2.0  | 1,000 | N    | N    | N    | N     |
| RP509KN | 38 37 41 | 119 57 19 | .7    | .05   | 10    | >2.0  | 700   | N    | N    | N    | <20   |
| RP510KN | 38 29 6  | 120 1 0   | 1.0   | 3.00  | 10    | 1.0   | 700   | N    | N    | N    | <20   |
| RP511KN | 38 29 1  | 119 59 51 | 1.0   | 5.00  | 15    | >2.0  | 1,000 | N    | N    | N    | N     |
| RP512KN | 38 29 43 | 119 58 47 | .5    | 10.00 | 50    | >2.0  | 1,500 | N    | N    | N    | 150   |
| RP516KN | 38 35 30 | 119 53 5  | .2    | .05   | 10    | >2.0  | 500   | N    | N    | N    | N     |
| RP517KN | 38 35 29 | 119 53 2  | 1.5   | 3.00  | 7     | .7    | 500   | N    | N    | N    | N     |
| RP518KN | 38 35 11 | 119 51 38 | 1.5   | 5.00  | 10    | .5    | 700   | N    | N    | N    | N     |
| RP519KN | 38 34 58 | 119 52 0  | 1.0   | 7.00  | 20    | 1.0   | 1,000 | N    | N    | N    | N     |
| TE500KN | 38 35 55 | 120 8 7   | 1.0   | 5.00  | 10    | >2.0  | 1,000 | N    | N    | N    | N     |
| TE501KN | 38 36 5  | 120 8 2   | 5.0   | 5.00  | 10    | 1.5   | 2,000 | N    | N    | N    | <20   |
| TE502KN | 38 36 0  | 120 7 53  | 2.0   | 3.00  | 10    | 1.0   | 500   | N    | N    | N    | N     |
| TE503KN | 38 36 55 | 120 10 48 | .5    | 2.00  | 7     | >2.0  | 1,000 | N    | N    | N    | N     |
| TE504KN | 38 37 5  | 120 10 48 | .7    | 1.50  | 7     | >2.0  | 1,000 | N    | N    | N    | N     |
| TE505KN | 38 36 37 | 120 11 28 | .5    | 2.00  | 10    | >2.0  | 700   | N    | N    | N    | N     |
| TE506KN | 38 36 42 | 120 11 37 | .5    | 1.50  | 7     | >2.0  | 700   | N    | N    | N    | N     |
| TE507KN | 38 35 15 | 120 11 52 | 2.0   | 5.00  | 10    | 2.0   | 1,500 | N    | N    | N    | <20   |
| TE508KN | 38 35 22 | 120 12 0  | .5    | 1.50  | 7     | >2.0  | 700   | N    | N    | N    | N     |
| TE509KN | 38 34 57 | 120 12 0  | .5    | .20   | 5     | >2.0  | 700   | N    | N    | N    | N     |
| TE510KN | 38 34 25 | 120 11 55 | .7    | 2.00  | 7     | >2.0  | 1,000 | N    | N    | N    | N     |
| TE511KN | 38 34 40 | 120 12 30 | .7    | 2.00  | 7     | >2.0  | 1,000 | N    | N    | N    | N     |
| TE512KN | 38 34 40 | 120 12 37 | .5    | 1.50  | 5     | >2.0  | 1,000 | N    | N    | N    | N     |
| TE513KN | 38 39 20 | 120 4 55  | 1.5   | 2.00  | 7     | >2.0  | 700   | N    | N    | N    | N     |
| TE514KN | 38 39 7  | 120 4 57  | 1.5   | 5.00  | 7     | 2.0   | 1,000 | N    | N    | N    | <20   |
| TE515KN | 38 41 41 | 120 0 49  | .7    | 1.50  | 10    | >2.0  | 700   | N    | N    | N    | 20    |
| TE516KN | 38 41 0  | 120 0 40  | 10.0  | .50   | 1     | 1.5   | 300   | 20   | N    | N    | 180   |

Table 4.--Data for concentrate samples, Mokelumne Wilderness and adjacent study areas, California--continued

| sample  | S-BA  | S-BE | S-BI | S-CD | S-CO | S-CR  | S-CU  | S-LA  | S-MO  | S-NB | S-NI |
|---------|-------|------|------|------|------|-------|-------|-------|-------|------|------|
| MK033KN | 200   | N    | N    | N    | 50   | 50    | 70    | 700   | 100   | 50   | N    |
| MK034KN | 70    | N    | N    | N    | 10   | 70    | N     | 1,000 | 50    | 200  | N    |
| MK035KN | 50    | N    | N    | N    | <10  | 30    | <10   | 1,500 | 20    | 70   | N    |
| MK036KN | 50    | N    | N    | N    | 15   | 500   | 15    | 500   | 30    | 100  | 30   |
| MK037KN | 70    | N    | N    | N    | 50   | 1,500 | 10    | 150   | 15    | 50   | 150  |
| MK038KN | 150   | N    | N    | N    | 10   | 100   | <10   | 500   | 70    | 70   | 20   |
| MK039KN | 70    | N    | N    | N    | 30   | 1,000 | <10   | 500   | 30    | 70   | 100  |
| MK041KN | 50    | N    | N    | N    | 20   | 200   | <10   | 1,500 | 50    | 200  | 20   |
| MK042KN | 100   | N    | N    | N    | 30   | 1,000 | 10    | 700   | 150   | 100  | 150  |
| MK043KN | 200   | N    | N    | N    | 15   | 100   | 10    | 700   | 20    | 100  | N    |
| MK044KN | 50    | N    | N    | N    | 15   | 70    | <10   | 2,000 | 15    | 50   | N    |
| RP500KN | 50    | N    | N    | N    | 50   | 1,000 | 10    | 200   | 10    | 100  | 150  |
| RP501KN | <50   | N    | N    | N    | 10   | 200   | N     | 300   | 20    | 70   | 20   |
| RP502KN | 100   | N    | N    | N    | 30   | 700   | 10    | 300   | 10    | 100  | 100  |
| RP503KN | 50    | N    | N    | N    | 15   | 100   | N     | 700   | 15    | 70   | N    |
| RP504KN | 300   | N    | N    | N    | 300  | 20    | 150   | 500   | 50    | 70   | 70   |
| RP505KN | 200   | N    | N    | N    | 30   | 150   | 20    | 1,500 | 15    | 100  | 20   |
| RP506KN | 50    | N    | N    | N    | 20   | 500   | <10   | 150   | N     | <50  | 70   |
| RP507KN | 500   | <2   | 200  | N    | 50   | 20    | 10    | 1,000 | 50    | 50   | <10  |
| RP508KN | 150   | N    | N    | N    | 20   | 20    | 15    | 1,000 | 50    | 70   | N    |
| RP509KN | 100   | 2    | N    | N    | 20   | 20    | 10    | 1,000 | 30    | 150  | <10  |
| RP510KN | 70    | N    | N    | N    | 30   | 300   | <10   | 150   | N     | <50  | 70   |
| RP511KN | 100   | N    | N    | N    | 30   | 700   | <10   | 500   | 15    | 70   | 100  |
| RP512KN | 300   | N    | N    | N    | 30   | 300   | <10   | 150   | <10   | 50   | 100  |
| RP516KN | 100   | N    | N    | N    | 10   | 20    | N     | 700   | 20    | 70   | <10  |
| RP517KN | 50    | N    | N    | N    | 50   | 700   | <10   | 200   | N     | N    | 100  |
| RP518KN | 500   | N    | N    | N    | 50   | 1,000 | <10   | N     | N     | N    | 100  |
| RP519KN | 500   | N    | N    | N    | 50   | 1,000 | 10    | 200   | N     | <50  | 150  |
| TE500KN | <50   | N    | N    | N    | 30   | 500   | <10   | 500   | 15    | 200  | 50   |
| TE501KN | 50    | N    | N    | N    | 50   | 1,500 | N     | 200   | 10    | <50  | 200  |
| TE502KN | 50    | N    | N    | N    | 30   | 500   | <10   | 200   | N     | N    | 100  |
| TE503KN | <50   | N    | N    | N    | 20   | 300   | 10    | 1,000 | 20    | 50   | 20   |
| TE504KN | 50    | N    | N    | N    | 15   | 150   | <10   | 700   | 50    | 150  | 20   |
| TE505KN | N     | N    | N    | N    | 20   | 300   | <10   | 700   | 30    | 200  | 20   |
| TE506KN | <50   | N    | N    | N    | 20   | 200   | <10   | 1,000 | 30    | 150  | 50   |
| TE507KN | 100   | N    | N    | N    | 30   | 1,000 | 10    | 500   | 20    | 70   | 100  |
| TE508KN | <50   | N    | N    | N    | 20   | 200   | 10    | 500   | 20    | 70   | 20   |
| TE509KN | <50   | N    | N    | N    | 100  | 50    | N     | 1,000 | 50    | 150  | N    |
| TE510KN | N     | N    | N    | N    | 20   | 500   | <10   | 1,000 | 20    | 50   | 50   |
| TE511KN | <50   | N    | N    | N    | 20   | 150   | 10    | 500   | 20    | 50   | 50   |
| TE512KN | 50    | N    | N    | N    | 15   | 100   | <10   | 700   | 20    | 70   | 20   |
| TE513KN | 50    | N    | N    | N    | 30   | 500   | 20    | 500   | 1,000 | <50  | 20   |
| TE514KN | 50    | N    | N    | N    | 30   | 700   | <10   | 500   | 70    | 50   | 100  |
| TE515KN | 150   | N    | N    | N    | 20   | 300   | <10   | 500   | 20    | 50   | 10   |
| TE516KN | 3,000 | N    | 50   | 50   | 200  | 20    | 1,000 | 500   | 30    | N    | 150  |

Table 4.--Data for concentrate samples, Mokelumne Wilderness and adjacent study areas, California--continued

| sample  | S-PB | S-SC | S-SN | S-SR  | S-V | S-W   | S-Y   | S-ZR   | S-TH   |
|---------|------|------|------|-------|-----|-------|-------|--------|--------|
| MK033KN | 50   | 50   | 30   | N     | 300 | 200   | 700   | >2,000 | 5,000  |
| MK034KN | 20   | 30   | 50   | <200  | 500 | N     | 1,000 | >2,000 | 1,500  |
| MK035KN | 20   | 50   | 50   | N     | 500 | N     | 1,000 | >2,000 | 500    |
| MK036KN | <20  | 50   | 50   | N     | 500 | N     | 1,000 | >2,000 | 500    |
| MK037KN | N    | 100  | N    | <200  | 500 | <100  | 150   | >2,000 | <500   |
| MK038KN | N    | 50   | <20  | N     | 500 | 150   | 700   | >2,000 | 1,000  |
| MK039KN | 20   | 100  | 20   | N     | 300 | 150   | 500   | >2,000 | 1,000  |
| MK041KN | N    | 70   | 70   | N     | 700 | 100   | 1,000 | >2,000 | 500    |
| MK042KN | 20   | 100  | 20   | <200  | 300 | 1,000 | 500   | >2,000 | 1,500  |
| MK043KN | 50   | 30   | 50   | N     | 200 | 100   | 2,000 | >2,000 | >5,000 |
| MK044KN | 30   | 30   | 70   | N     | 200 | N     | 1,500 | >2,000 | 5,000  |
| RP500KN | 20   | 100  | 20   | <200  | 300 | N     | 200   | >2,000 | N      |
| RP501KN | 20   | 50   | 50   | N     | 200 | <100  | 700   | >2,000 | 500    |
| RP502KN | 200  | 70   | 50   | 200   | 300 | <100  | 500   | >2,000 | 5,000  |
| RP503KN | 50   | 50   | 70   | 200   | 200 | N     | 1,000 | >2,000 | 700    |
| RP504KN | 70   | 50   | N    | 200   | 200 | 100   | 200   | >2,000 | <500   |
| RP505KN | 700  | 70   | 70   | 200   | 200 | 200   | 1,500 | >2,000 | >5,000 |
| RP506KN | 20   | 100  | N    | 200   | 200 | N     | 150   | >2,000 | N      |
| RP507KN | 100  | 70   | 50   | N     | 300 | <100  | 2,000 | >2,000 | >5,000 |
| RP508KN | 300  | 50   | 70   | 200   | 200 | 100   | 1,500 | >2,000 | >5,000 |
| RP509KN | 50   | 50   | 50   | N     | 300 | <100  | 1,500 | >2,000 | 5,000  |
| RP510KN | <20  | 50   | N    | <200  | 200 | N     | 100   | 1,500  | <500   |
| RP511KN | N    | 70   | <20  | N     | 200 | N     | 200   | 1,000  | <500   |
| RP512KN | 20   | 70   | N    | 1,500 | 300 | <100  | 200   | 2,000  | <500   |
| RP516KN | 20   | 20   | 20   | N     | 300 | N     | 500   | >2,000 | 1,000  |
| RP517KN | N    | 70   | N    | N     | 200 | N     | 100   | 1,000  | <500   |
| RP518KN | N    | 70   | N    | N     | 200 | N     | <20   | 200    | N      |
| RP519KN | 20   | 100  | N    | 1,000 | 300 | N     | 100   | 2,000  | <500   |
| TES00KN | 20   | 100  | 50   | N     | 200 | N     | 500   | >2,000 | 700    |
| TES01KN | 20   | 70   | N    | 200   | 300 | N     | 150   | >2,000 | 1,000  |
| TES02KN | N    | 70   | <20  | <200  | 150 | N     | 200   | >2,000 | 500    |
| TES03KN | 50   | 50   | 50   | N     | 200 | N     | 1,000 | >2,000 | 3,000  |
| TES04KN | <20  | 50   | 70   | N     | 200 | N     | 1,000 | >2,000 | 1,000  |
| TES05KN | <20  | 50   | 50   | N     | 200 | N     | 500   | >2,000 | 1,000  |
| TES06KN | <20  | 50   | 50   | N     | 300 | N     | 1,000 | >2,000 | 1,000  |
| TES07KN | 20   | 50   | 50   | 200   | 300 | N     | 500   | >2,000 | 1,000  |
| TES08KN | 50   | 70   | 50   | <200  | 200 | N     | 1,000 | >2,000 | 3,000  |
| TES09KN | 20   | 20   | 50   | N     | 500 | N     | 1,000 | >2,000 | 1,500  |
| TES10KN | 50   | 50   | 50   | 200   | 300 | N     | 1,000 | >2,000 | 2,000  |
| TES11KN | 50   | 70   | 50   | N     | 200 | <100  | 700   | >2,000 | 3,000  |
| TES12KN | 20   | 70   | 30   | N     | 200 | N     | 700   | >2,000 | 2,000  |
| TES13KN | 100  | 30   | 50   | 200   | 200 | 700   | 700   | >2,000 | >5,000 |
| TES14KN | 20   | 70   | N    | 200   | 300 | 150   | 500   | >2,000 | 1,500  |
| TES15KN | 50   | 70   | 20   | <200  | 200 | <100  | 500   | >2,000 | 1,500  |
| TES16KN | 200  | 50   | N    | <200  | 100 | <100  | 300   | >2,000 | 1,500  |

Table 4.--Data for concentrate samples, Mokelumne Wilderness and adjacent study areas, California--continued

| sample   | LATITUDE | LONGITUDE | S-FEX | S-MGX | S-CAZ | S-TIX | S-MN  | S-AG | S-AS | S-AU | S-B |
|----------|----------|-----------|-------|-------|-------|-------|-------|------|------|------|-----|
| TE517KN  | 38 40 53 | 120 0 17  | .2    | .30   | 5     | >2.0  | 300   | N    | N    | N    | N   |
| TE518KN  | 38 41 48 | 120 4 22  | 2.0   | 5.00  | 15    | .7    | 1,000 | N    | N    | N    | <20 |
| TE519KN  | 38 41 47 | 120 7 5   | 2.0   | 7.00  | 15    | .7    | 1,000 | N    | N    | N    | N   |
| TE520KN  | 38 41 33 | 120 7 10  | 3.0   | 7.00  | 15    | .7    | 1,000 | N    | N    | N    | N   |
| TE521KN  | 38 40 57 | 120 2 15  | .7    | 2.00  | 10    | >2.0  | 1,000 | N    | N    | N    | 20  |
| TE522KN  | 38 40 58 | 120 2 7   | .7    | 3.00  | 10    | >2.0  | 500   | 5    | N    | N    | 100 |
| TE523KN  | 38 38 7  | 120 7 17  | 1.0   | 5.00  | 15    | >2.0  | 1,500 | N    | N    | N    | N   |
| TE524KN  | 38 39 20 | 120 6 23  | 2.0   | 5.00  | 10    | 1.0   | 700   | N    | N    | N    | N   |
| TE525KN  | 38 39 37 | 120 6 25  | 2.0   | 5.00  | 10    | .5    | 700   | N    | N    | N    | N   |
| TE526KN  | 38 41 7  | 119 57 40 | .5    | 2.00  | 10    | >2.0  | 700   | N    | N    | N    | N   |
| TE527KN  | 38 40 45 | 119 57 40 | .5    | 1.00  | 15    | >2.0  | 1,000 | N    | N    | N    | 70  |
| WL0448KN | 38 40 40 | 119 56 1  | 1.0   | 3.00  | 7     | >2.0  | 1,000 | N    | N    | N    | <20 |
| WL0450KN | 38 38 53 | 119 59 40 | 1.0   | .70   | 3     | >2.0  | 700   | N    | N    | N    | 300 |
| WL0451KN | 38 34 34 | 119 54 35 | 2.0   | 5.00  | 5     | 2.0   | 1,000 | N    | N    | N    | N   |
| WL0452KN | 38 34 36 | 119 54 40 | 1.0   | .20   | 7     | >2.0  | 1,000 | N    | N    | N    | N   |
| WL0453KN | 38 34 38 | 119 59 52 | .5    | 1.50  | 5     | >2.0  | 1,000 | N    | N    | N    | N   |
| WL0454KN | 38 34 53 | 119 59 40 | .5    | .20   | 7     | >2.0  | 700   | N    | N    | N    | N   |
| WL0455KN | 38 33 53 | 119 58 57 | .5    | 3.00  | 7     | >2.0  | 1,000 | N    | N    | N    | N   |
| WL0456KN | 38 33 20 | 119 58 6  | .7    | 3.00  | 10    | >2.0  | 1,000 | N    | N    | N    | N   |
| WL0457KN | 38 33 31 | 119 57 37 | .5    | .20   | 10    | >2.0  | 1,000 | N    | N    | N    | N   |
| WL0458KN | 38 32 39 | 119 55 45 | 2.0   | 3.00  | 10    | >2.0  | 1,500 | N    | N    | N    | 100 |
| WL0459KN | 38 32 21 | 119 55 44 | 1.0   | 2.00  | 5     | >2.0  | 1,500 | N    | N    | N    | 30  |
| WL0611KN | 38 28 56 | 119 59 12 | 2.0   | 5.00  | 10    | >2.0  | 1,500 | N    | N    | N    | 50  |
| WL0613KN | 38 32 45 | 119 52 44 | 1.0   | 3.00  | 7     | >2.0  | 1,000 | N    | N    | N    | N   |
| WL0615KN | 38 33 15 | 119 50 55 | 2.0   | 3.00  | 10    | >2.0  | 1,000 | N    | N    | N    | N   |

Table 4.--Data for concentrate samples, Mokelumne Wilderness and adjacent study areas, California--continued

| sample   | S-BA  | S-BE | S-BI | S-CD | S-CO | S-CR  | S-CU | S-LA  | S-MO | S-NB | S-NI |
|----------|-------|------|------|------|------|-------|------|-------|------|------|------|
| TE517KN  | 700   | N    | N    | N    | 20   | 50    | 10   | 500   | 200  | <50  | N    |
| TE518KN  | 300   | N    | N    | N    | 50   | 500   | 20   | 150   | N    | N    | 70   |
| TE519KN  | 200   | N    | N    | N    | 50   | 1,000 | 10   | 150   | N    | N    | 70   |
| TE520KN  | 70    | N    | N    | N    | 50   | 700   | 10   | 70    | N    | N    | 70   |
| TE521KN  | 100   | N    | N    | N    | 20   | 300   | <10  | 500   | 15   | 100  | 10   |
| TE522KN  | 70    | N    | 200  | N    | 20   | 300   | 10   | 500   | <10  | 50   | 10   |
| TE523KN  | 70    | N    | N    | N    | 30   | 500   | <10  | 500   | 10   | 100  | 50   |
| TE524KN  | 150   | N    | N    | N    | 30   | 700   | 15   | 150   | <10  | <50  | 50   |
| TE525KN  | 150   | N    | N    | N    | 30   | 500   | <10  | <50   | N    | N    | 70   |
| TE526KN  | 100   | N    | N    | N    | 30   | 300   | <10  | 500   | 50   | 100  | 50   |
| TE527KN  | 300   | N    | N    | N    | 15   | 300   | 15   | 500   | 20   | 100  | N    |
| WL0448KN | 500   | <2   | N    | N    | 15   | 1,000 | 50   | 500   | 50   | 100  | 20   |
| WL0450KN | 200   | <2   | N    | N    | 15   | 100   | 15   | 1,000 | 30   | 70   | <10  |
| WL0451KN | 100   | N    | N    | N    | 20   | 700   | <10  | 200   | <10  | 50   | 100  |
| WL0452KN | 300   | N    | N    | N    | <10  | 20    | N    | 300   | 20   | 70   | <10  |
| WL0453KN | 70    | N    | N    | N    | 10   | 200   | <10  | 500   | 50   | 70   | <10  |
| WL0454KN | 100   | N    | N    | N    | <10  | 30    | <10  | 1,500 | 10   | 50   | <10  |
| WL0455KN | 100   | N    | N    | N    | 15   | 500   | N    | 300   | 20   | 70   | 20   |
| WL0456KN | 70    | <2   | N    | N    | 15   | 500   | <10  | 500   | 20   | 150  | 20   |
| WL0457KN | 100   | N    | N    | N    | <10  | 20    | N    | 500   | 30   | 100  | N    |
| WL0458KN | 100   | N    | N    | N    | 20   | 1,000 | <10  | 200   | 15   | 50   | 50   |
| WL0459KN | 70    | N    | N    | N    | 10   | 200   | N    | 500   | <10  | 50   | 20   |
| WL0611KN | 1,500 | N    | N    | N    | 15   | 1,000 | <10  | 300   | 10   | 100  | 70   |
| WL0613KN | 3,000 | <2   | N    | N    | 15   | 700   | 15   | 200   | 20   | 100  | 50   |
| WL0615KN | 200   | <2   | N    | N    | 20   | 1,000 | N    | 300   | 10   | 50   | 70   |



Table 4.--Data for concentrate samples, Mokelumne Wilderness and adjacent study areas, California--continued

| sample   | S-PB | S-SC | S-SN | S-SR | S-V | S-W  | S-Y   | S-ZR   | S-TH  |
|----------|------|------|------|------|-----|------|-------|--------|-------|
| TE517KN  | <20  | 70   | 30   | N    | 200 | 150  | 1,000 | >2,000 | 5,000 |
| TE518KN  | 100  | 100  | N    | 500  | 200 | N    | 150   | >2,000 | 700   |
| TE519KN  | <20  | 150  | N    | 300  | 200 | N    | 150   | >2,000 | 500   |
| TE520KN  | N    | 150  | N    | 200  | 300 | N    | 50    | >2,000 | <500  |
| TE521KN  | 20   | 70   | 50   | N    | 200 | N    | 300   | >2,000 | 1,000 |
| TE522KN  | 50   | 100  | 30   | N    | 200 | <100 | 300   | >2,000 | 1,000 |
| TE523KN  | 20   | 100  | 50   | N    | 200 | 100  | 300   | >2,000 | 1,500 |
| TE524KN  | <20  | 100  | N    | <200 | 200 | <100 | 100   | 2,000  | <500  |
| TE525KN  | N    | 100  | N    | 200  | 200 | N    | 30    | 1,500  | <500  |
| TE526KN  | 50   | 70   | 20   | 200  | 300 | 100  | 300   | >2,000 | 1,500 |
| TE527KN  | 300  | 70   | 70   | 200  | 200 | N    | 500   | >2,000 | 500   |
| WL0448KN | 200  | 70   | 100  | 200  | 300 | 100  | 300   | 2,000  | 500   |
| WL0450KN | 100  | 70   | 50   | 200  | 200 | 200  | 500   | >2,000 | 5,000 |
| WL0451KN | <20  | 100  | 50   | 200  | 500 | N    | 200   | 2,000  | N     |
| WL0452KN | 30   | 30   | 100  | <200 | 300 | N    | 300   | >2,000 | 500   |
| WL0453KN | 20   | 50   | 50   | 200  | 300 | 100  | 500   | >2,000 | 2,000 |
| WL0454KN | N    | 50   | 70   | N    | 300 | N    | 1,000 | >2,000 | 2,000 |
| WL0455KN | <20  | 70   | 100  | N    | 300 | N    | 500   | >2,000 | <500  |
| WL0456KN | <20  | 50   | 100  | N    | 300 | N    | 500   | 2,000  | 500   |
| WL0457KN | 50   | 50   | 150  | N    | 500 | N    | 500   | >2,000 | 700   |
| WL0458KN | <20  | 50   | 50   | <200 | 500 | N    | 200   | >2,000 | 1,000 |
| WL0459KN | <20  | 50   | 70   | 200  | 300 | N    | 500   | >2,000 | <500  |
| WL0611KN | 20   | 100  | 50   | 200  | 300 | <100 | 300   | 2,000  | 500   |
| WL0613KN | 50   | 100  | 70   | 300  | 300 | N    | 500   | 1,000  | 2,000 |
| WL0615KN | 20   | 70   | 30   | 200  | 500 | N    | 200   | 1,500  | 500   |

#### DESCRIPTION OF TABLES 5-7

Tables 5, 6, and 7 give summary statistics for the analyses of the samples of rock, minus-0.25-mm stream sediment, and nonmagnetic heavy-mineral concentrate listed in tables 2, 3, and 4, respectively. All values in the Range of values and Percentiles columns are significant to the number of digits shown. For uniformity, the values in the Geometric mean column are all listed to two significant digits even though it is recognized that the second digit may not be truly significant for some elements. The geometric mean for each element is calculated from the analyses remaining after all the "not detected," "less than," and "greater than" values have been deleted for that element.

Table 5.--Summary statistics for the analyses of the 86 rock samples in table 3, Mokelumne Wilderness Area and adjacent RARE II further planning areas, California

[All concentrations are in parts per million except those for Fe, Mg, Ca, and Ti, which are in percent. "AA" preceding the element symbol indicates atomic absorption analysis; no element prefix indicates emission spectrographic analysis. "N" means not detected at the lower limit of determination shown in parentheses. Each of the elements Nb, AA-Bi, and CM-As (colorimetric As) did not have adequate samples with concentrations above the lower limit of determination; thus, meaningful statistical information could not be derived for these elements.]

| Element | Range of values | Geometric mean | Percentiles |      |      |      |
|---------|-----------------|----------------|-------------|------|------|------|
|         |                 |                | 50          | 75   | 90   | 95   |
| Fe      | 0.5 - 7         | 2.5            | 2           | 3    | 5    | 5    |
| Mg      | 0.1 - 2         | 0.78           | 0.7         | 1    | 1.5  | 1.5  |
| Ca      | 0.05 - 3        | 1.4            | 1.5         | 1.5  | 2    | 2    |
| Ti      | 0.1 - 0.7       | 0.38           | 0.3         | 0.5  | 0.5  | 0.7  |
| Mn      | 100 -2000       | 690            | 700         | 700  | 1000 | 1000 |
| B       | N(10)- 20       | 13             | N(10)       | <10  | 10   | 15   |
| Ba      | 300 -2000       | 990            | 1000        | 1000 | 1500 | 2000 |
| Be      | <1 - 5          | 1.2            | <1          | 1    | 1    | 1.5  |
| Co      | N(5) - 30       | 9.8            | 7           | 10   | 15   | 20   |
| Cr      | N(10)- 150      | 22             | <10         | 20   | 30   | 50   |
| Cu      | N(5) - 100      | 11             | 5           | 10   | 20   | 30   |
| La      | 20 - 200        | 38             | 30          | 50   | 50   | 70   |
| Mo      | N(5) - 15       | 7.1            | N(5)        | N(5) | N(5) | 5    |
| Ni      | N(5) - 50       | 7.9            | <5          | 7    | 15   | 20   |
| Pb      | 10 - 70         | 2.7            | 20          | 30   | 30   | 50   |
| Sc      | N(5) - 20       | 7.5            | 5           | 7    | 15   | 15   |
| Sr      | 100 -1500       | 480            | 300         | 500  | 700  | 700  |
| V       | 10 - 500        | 92             | 70          | 100  | 150  | 200  |
| Y       | N(10)- 30       | 15             | 10          | 15   | 20   | 30   |
| Zr      | 15 - 500        | 70             | 50          | 70   | 150  | 200  |
| AA-Zn   | 20 - 90         | 50             | 50          | 50   | 70   | 70   |
| AA-Cd   | N(0.05)- 0.3    | 0.12           | N(0.05)     | 0.05 | 0.10 | 0.15 |
| AA-Sb   | <1 - 5          | 2.0            | 2           | 2    | 2    | 3    |

Table 6.--Summary statistics for the analyses of the 115 minus-0.25-mm stream-sediment samples in table 3, Mokelumne Wilderness Area and adjacent RARE II further planning areas, California  
 [All concentrations are in parts per million except those for Fe, Mg, Ca, and Ti, which are in percent. "AA" preceding the element symbol indicates atomic absorption analysis; no element prefix indicates emission spectrographic analysis. "N" means not detected at the lower limit of determination shown in parentheses. Neither Nb nor CM-As (colorimetric As) had adequate samples with concentrations above the lower limit of determination; thus, meaningful statistical information could not be derived for these elements.]

| Element | Range of values | Geometric mean | Percentiles |      |      |      |
|---------|-----------------|----------------|-------------|------|------|------|
|         |                 |                | 50          | 75   | 90   | 95   |
| Fe      | 2 - 15          | 4.3            | 3           | 5    | 7    | 7    |
| Mg      | 0.2 - 3         | 1.1            | 1           | 1.5  | 1.5  | 2    |
| Ca      | 1 - 7           | 2.0            | 1.5         | 2    | 3    | 3    |
| Ti      | 0.2 - 5         | 0.52           | 0.5         | 0.5  | 0.7  | 0.7  |
| Mn      | 500 -2000       | 1100           | 1000        | 1000 | 1500 | 1500 |
| B       | N(10) - 70      | 13             | <10         | 10   | 20   | 20   |
| Ba      | 200 -2000       | 690            | 500         | 700  | 1000 | 1000 |
| Re      | <1 - 3          | 1.2            | <1          | 1    | 1.5  | 1.5  |
| Co      | <5 - 50         | 16             | 15          | 20   | 20   | 30   |
| Cr      | N(10) - 150     | 48             | 50          | 70   | 100  | 100  |
| Cu      | 5 - 70          | 15             | 15          | 20   | 20   | 30   |
| La      | 20 - 100        | 38             | 30          | 30   | 50   | 70   |
| Mo      | N(5) - 15       | 5.8            | N(5)        | <5   | 5    | 7    |
| Ni      | N(5) - 50       | 16             | 15          | 20   | 30   | 30   |
| Pb      | 15 - 100        | 33             | 30          | 30   | 50   | 50   |
| Sc      | 5 - 30          | 13             | 10          | 15   | 20   | 20   |
| Sr      | 300 -1000       | 590            | 500         | 700  | 700  | 1000 |
| V       | 70 -1000        | 170            | 150         | 200  | 300  | 300  |
| Y       | 10 - 70         | 20             | 15          | 20   | 30   | 30   |
| Zr      | 50 -1000        | 130            | 100         | 150  | 300  | 500  |
| AA-Zn   | 20 - 100        | 47             | 50          | 50   | 70   | 70   |
| AA-Cd   | N(0.05) - 0.55  | 0.13           | 0.07        | 0.15 | 0.2  | 0.2  |
| AA-Bi   | N(0.5) - 2.5    | 0.84           | N(0.5)      | <0.5 | 0.5  | 1    |
| AA-Sb   | <1 - 5          | 1.9            | 1           | 2    | 3    | 3    |

Table 7.--Summary statistics for the analyses of the 115 nonmagnetic heavy-mineral-concentrate samples in table 4, Mokelumne Wilderness Area and adjacent RARE II further planning areas, California  
 [All concentrations are in parts per million except those for Fe, Mg, Ca, and Ti, which are in percent. All data are based on emission spectrographic analyses. "N" means not detected at the lower limit of determination shown in parentheses. Each of the elements As, Au, Be, and Cd did not have adequate samples with concentrations above the lower limit of determination; thus, meaningful statistical information could not be derived for these elements.]

| Element | Range of values | Geometric mean | Percentiles |       |       |       |
|---------|-----------------|----------------|-------------|-------|-------|-------|
|         |                 |                | 50          | 75    | 90    | 95    |
| Fe      | 0.2 - 30        | 0.93           | 0.7         | 1.5   | 2     | 3     |
| Mg      | <0.05- 10       | 1.3            | 1.5         | 3     | 5     | 5     |
| Ca      | 1 - 50          | 7.8            | 7           | 10    | 10    | 15    |
| Ti      | 0.5 - >2        | 1.3            | 2           | >2    | >2    | >2    |
| Mn      | 200 -2000       | 950            | 700         | 1000  | 1500  | 1500  |
| Ag      | N(1) - 20       | 10             | N(1)        | N(1)  | N(1)  | N(1)  |
| B       | N(20)-1000      | 46             | N(20)       | <20   | 50    | 70    |
| Ba      | N(50)-3000      | 110            | 70          | 150   | 300   | 500   |
| Bi      | N(50)- 200      | 130            | N(50)       | N(50) | N(50) | N(50) |
| Co      | <10 - 300       | 24             | 20          | 30    | 50    | 50    |
| Cr      | N(20)-2000      | 220            | 200         | 700   | 1000  | 1000  |
| Cu      | N(10)-1000      | 16             | <10         | 10    | 15    | 50    |
| La      | N(70) -->2000   | 500            | 500         | 700   | 1000  | 1500  |
| Mo      | N(10)-1000      | 27             | 15          | 30    | 50    | 100   |
| Nb      | N(50)- 300      | 84             | 70          | 100   | 150   | 150   |
| Ni      | N(10)- 200      | 51             | 20          | 70    | 100   | 100   |
| Pb      | N(20)- 700      | 43             | 20          | 50    | 100   | 150   |
| Sc      | 15 - 150        | 56             | 50          | 70    | 100   | 100   |
| Sn      | N(20)- 200      | 48             | 30          | 50    | 70    | 100   |
| Sr      | N(200)-1500     | 240            | N(200)      | <200  | 200   | 200   |
| V       | 100 - 700       | 280            | 200         | 300   | 500   | 500   |
| W       | N(100)-1000     | 170            | N(100)      | <100  | 100   | 200   |
| Y       | <30-2000        | 500            | 500         | 1000  | 1500  | 1500  |
| Zr      | 200 -->2000     | 1300           | 2000        | >2000 | >2000 | >2000 |
| Th      | N(500)->5000    | 1300           | 700         | 2000  | 5000  | 5000  |

## ACKNOWLEDGMENTS

We were assisted in the field and(or) laboratory by F. C. Benedict, D. L. Fey, R. A. Howe, A. D. McCollaum, and E. C. Stenberg.

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