UNITED STATES DEPARTMENT OF THE INTERIOR

GEOLOGICAL SURVEY

CHEMICAL ANALYSES AND STATISTICAL SUMMARIES FOR SAMPLES OF ROCK, MINUS-60-MESH (0.25-mm) STREAM SEDIMENT, AND NONMAGNETIC HEAVY-MINERAL CONCENTRATE, SWEETWATER ROADLESS AREA, MONO COUNTY, CALIFORNIA, AND LYON AND DOUGLAS COUNTIES, NEVADA

by

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STUDIES RELATED TO WILDERNESS

The Wilderness Act (Public Law 88-577, September 3, 1964) and related acts require the U.S. Geological Survey and the U.S. Bureau of Mines to survey certain areas on Federal lands to determine their mineral resource potential. Results must be made available to the public and be submitted to the President and the Congress. This report presents the results of a geochemical survey of the Sweetwater Roadless Area in the Toiyabe National Forest, Mono County, California and Lyon and Douglas Counties, Nevada. The Sweetwater Roadless Area (4657) was classified as a further planning area during the Second Roadless Area Review and Evaluation (RARE II) by the U.S. Forest Service, January 1979.

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INTRODUCTION

Geochemical sampling was conducted in the Sweetwater Roadless Area, Mono County, California, and Lyon and Douglas Counties, Nevada, during the summers of 1978, 1979, and 1980. 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), and a tabulation of chemical analyses for samples of rock, minus-60-mesh (0.25-mm) stream sediment, and nonmagnetic heavy-mineral concentrate from stream sediment (tables 2, 3, and 4, respectively). Summary statistics for the elements are listed in tables 5-7, and percent-frequency histograms for the elements analyzed in all three sample media. Tables 2-4 and 5-7 and figures 1-3 are based on data provided by computer programs in the U.S. Geological Survey RASS-STATPAC System (VanTrump and Miesch, 1977).

SAMPLE COLLECTION AND PREPARATION

Analyses for a total of 127 rock samples, 59 stream-sediment samples, and 59 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/0.9 mi^2 (1 sample/2.3 km^2) for the rock samples and 1 sample/1.9 mi^2 (1 sample/5.0 km^2) for the other two types of samples.

Most of the rock samples are of unaltered material. The analyses of these samples provide background information for elements in rocks that have not been affected by hydrothermal alteration or mineralization. In addition, some altered and(or) mineralized rocks were collected to characterize mineralogically anomalous areas that might not be identified by a visual examination. The actual areal extent of influence of the chemical information provided by a specific sample is not known; the sampling program was designed only to provide some general information on the geochemical nature of the rock units present.

The chemical analyses of the stream-sediment samples reflect the chemistry of rock material eroded from the drainage basin upstream from each sample site and may reveal unusually high concentrations of elements that may be related to mineral deposits.

Concentrate samples were processed from the same active alluvium used to make minus-60-mesh (0.25-mm) stream-sediment samples. The concentrate samples provide information about the chemistry of a limited number of minerals present in rock material eroded from the drainage basin upstream from each sample site. Wet panning and a heavy-liquid gravity separation technique were used to remove most of the rock forming minerals, such as quartz, feldspars, and clay minerals; and a magnetic separation technique was used to remove the more magnetic minerals leaving a mineral assemblage potentially rich in minerals commonly associated with mineral deposits. The selective concentration of ore-related minerals permits determination of some elements that are not easily detected in stream-sediment samples. The chemical composition of a concentrate may also indicate specific minerals. For example, the barium content in a stream-sediment sample is predominantly the sum of barium in the mineral barite plus barium substituted in feldspars, clay minerals, and possibly other minerals, whereas the barium in a concentrate sample is essentially all in barite.

Rock samples

All rock samples were collected from outcrops that were considered to be representative of exposures in the vicinity of the plotted site location. Wherever possible the samples were hand cobbed to remove any obviously weathered material. All samples were crushed and pulverized to at least minus-100-mesh (0.15-mm) material before analysis.

Minus-60-mesh (0.25-mm) stream-sediment samples

The material for the stream-sediment samples was collected primarily from first-order (unbranched) and second-order (below the junction of two first-order) streams as shown on 1:62,500-scale topographic maps. Each sample was composited from active alluvium collected from several locations within an area that may extend as much as 50 ft (15 m) from the site plotted on the map. The samples were air dried and that portion passing through a screen with 0.25-mm openings (a 60-mesh screen) was saved and pulverized to at least minus-100-mesh (0.15-mm) material before 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-60-mesh (0.25-mm) stream-sediment samples. Each bulk sample was passed through a 10-mesh (2.0-mm) 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 18-mesh (1.0-mm) sieve; the minus-18-mesh 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 hand magnet from the heavy-mineral fraction. The remaining heavy-mineral material was then separated into a magnetic and a relatively nonmagnetic fraction using a Frantz Isodynamic Separator set at 0.6 amperes, with a 15° forward setting and a 15° side setting. The resulting nonmagnetic sample was split into two fractions; one fraction was ground in an agate mortar for analysis and the other fraction was saved for mineralogical studies.

CHEMICAL ANALYSIS

All three types of samples were analyzed for 31 elements (Ag, As, Au, B, Ba, Be, Bi, Ca, Cd, Co, Cr, Cu, Fe, La, Mg, Mn, Mo, Nb, Ni, Pb, Sb, Sc, Sn, Sr, Th, Ti, V, W, Y, Zn, and Zr) 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 arsenic using a colorimetric method (Ward and others, 1963) and for zinc, antimony, cadmium, and bismuth by atomic absorption spectrometry (Ward and others, 1969; Welsch and Chao, 1975; Viets, 1978). In addition, selected samples were also analyzed by atomic absorption spectroscopy for gold (Meier, 1980). Analysis for all three sample types was done partly in the field and partly in U.S. Geological Survey laboratories near 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 approximately 83 percent of the time and plus or minus two reporting values of the value given approximately 96 percent of the time (Motooka and Grimes, 1976). Because all of the samples for this report were analyzed by the same analyst using the same spectrographic instrument, our experience indicates that better precision can be expected.

Each spectrographic film includes analytical spectra for up to 22 field samples and one reference standard sample. The reference standard sample is included with each set of field samples to monitor the quality of the analyses from film to film.

For the six 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 (% RSD), 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 six elements discussed here, the reported ranges of percent relative standard deviation, as determined by replicate analysis of a limited sample set, are as follows:

Element	Range of % RSD	Source of data
As	0.0-48.9	Unpublished analyses 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
Au	0.0-22.8	Meier, 1980

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 tables 2 or 3 should be within $\pm$ 10.7% (usually much less) of the mean value for that sample. 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 1-4

Table 1 lists the lower limits of analytical determination for the three types of samples collected for this report. 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.

Tables 2-4 list the chemical analyses for the samples of rock, stream sediment, and nonmagnetic heavy-mineral concentrate, respectively. 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). Samples with a WL prefix were originally collected for the geochemical studies of the Walker Lake 1° x 2° quadrangle (Chaffee and others, 1980). Samples with a SW prefix were collected specifically for this report. 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) respectively, for the sample sites in degrees, minutes, and seconds. Columns headings showing the letter "s" below the element symbol are emission spectrographic analyses. In a similar manner, the letters "aa" below the element symbol indicate atomic absorption analyses. The letters "cm" indicate colorimetric determinations for arsenic. All element concentrations are given in parts per million (ppm), except those for Fe, Mg, Ca, and Ti, which are given in percent (pct).

If a given element was looked for in a sample but not detected, then the letter "N" was entered in the tables in place of a numerical value. If an element was observed but was below the lowest reporting value, then a "less than" symbol (<) was entered in the tables in front of the lower limit of determination. If an element was observed but was above the highest reporting value, than a "greater than" symbol (>) was entered in the tables in front of the upper limit of determination.

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, Ag, and Be) 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 extra zeroes. The last column in table 2 gives the formation name for each rock sample. These names are taken from the units shown on the geologic map of the Sweetwater Roadless Area (Brem and others, 1983).

For the semiquantitative spectrographic method used, the elements As, Bi, Cd, Sb, and Zn have lower limits of analytical determination that are usually above normal concentrations for these elements in the selected sample media. To obtain more useful analytical values, these elements were also analyzed by using 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 spectrographic analyses for Au in the rock samples and for Au and W in the stream-sediment samples were all below their respective lower limits of determination; consequently, these elements were also deleted from tables 2 and 3.

Table 1.--Lower limits of analytical determination for samples of rock, minus-60-mesh (0.25-mm) stream sediment, and nonmagnetic heavy-mineral concentrate, Sweetwater Roadless Area, California and Nevada.

[(--) indicates not analyzed. "aa" following the element symbol indicates atomic absorption analysis; "cm" indicates colorimetric analysis; no suffix indicates spectrographic analysis. The values listed for Fe, Mg, Ca, and Ti are in percent; all others are in parts per million]

Element	Lower limit of determination	
	Rock and stream sediment	Non-magnetic heavy mineral concentrate
% Fe	0.05	0.1
% Mg	0.02	0.05
% Ca	0.05	0.1
% Ti	0.002	0.005
Mn	10	20
Ag	0.5	1.0
As	200	500
Au	10	20
B	10	20
Ba	20	50
Be	1	2
Bi	10	20
Cd	20	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	200
Sc	5	10
Sn	10	20
Sr	100	200
V	10	20
W	50	100
Y	10	20
Zn	200	500
Zr	10	20
Th	200	500
Zn-aa	5	--
Cd-aa	0.05	--
Bi-aa	0.5	--
Sb-aa	1.0	--
Au-aa	0.002	--
As-cm	10	--

Table 2.--Data for rock samples, Sweetwater Roadless Area, California and Nevada

Sample	Latitude	Longitude	Fe-pct. s	Mg-pct. s	Ca-pct. s	Ti-pct. s	Mn-ppm s	Ag-ppm s	B-ppm s	Ba-ppm s	Be-ppm s	Co-ppm s
SW002RK	38 22 54	119 20 31	1.0	.15	.20	.15	700	N	20	70	5.0	N
SW003RK	38 22 57	119 20 42	1.5	.10	.20	.10	200	N	<10	1,000	2.0	N
SW005RK	38 24 28	119 23 0	5.0	.50	1.50	.70	1,000	N	50	2,000	1.5	7
SW006RK	38 25 49	119 20 59	1.0	.02	.20	.10	500	N	20	<20	3.0	N
SW007RK	38 25 25	119 22 55	1.0	.20	.10	.10	100	N	N	N	N	N
SW008RK	38 18 15	119 15 34	3.0	.70	1.00	.50	1,500	N	<10	2,000	1.0	5
SW009RK	38 32 44	119 17 9	1.5	.50	1.00	.20	500	N	<10	1,000	1.0	<5
SW010RK	38 17 20	119 16 32	3.0	.30	1.00	.50	500	N	50	2,000	1.5	5
SW013RK	38 33 38	119 21 17	.5	.70	1.50	.20	300	N	N	500	1.0	N
SW014RK	38 33 30	119 21 10	.7	.30	.50	.20	200	N	10	1,500	1.0	<5
SW015RK	38 34 50	119 18 38	3.0	1.00	1.50	.50	700	N	15	1,500	1.0	10
SW016RK	38 34 27	119 19 28	3.0	1.00	2.00	.70	1,500	N	20	1,000	1.0	15
SW017RK	38 28 31	119 15 59	.5	.05	.10	.10	500	N	10	20	3.0	<5
SW018RK	38 28 20	119 15 48	1.0	.10	.50	.15	2,000	N	<10	500	3.0	N
SW019RK	38 24 17	119 15 24	1.0	.20	.70	.20	300	N	<10	500	1.5	5
SW020RK	38 24 19	119 15 9	.7	.05	.30	.20	200	1.0	N	1,500	<1.0	<5
SW021RK	38 24 33	119 13 53	.5	.05	.30	.05	50	N	N	70	2.0	<5
SW026RK	38 25 36	119 16 33	1.5	.02	.05	.20	50	10.0	<10	1,500	1.5	5
SW027RK	38 24 46	119 24 27	1.0	.02	.50	.15	100	1.0	<10	200	<1.0	<5
SW028RK	38 25 25	119 23 10	.7	.10	.10	.10	30	N	N	<20	<1.0	N
SW029RK	38 25 52	119 22 53	3.0	<.02	.05	.30	<10	N	<10	1,500	N	<5
SW030RK	38 24 53	119 23 35	.7	<.02	.07	.10	20	N	N	<20	<1.0	<5
SW031RK	38 25 20	119 18 15	3.0	.20	.05	.30	70	1.5	<10	300	2.0	<5
SW033RK	38 27 20	119 19 48	2.0	.70	2.00	.50	500	N	15	700	<1.0	15
SW035RK	38 32 13	119 19 32	1.5	.70	.70	.30	300	N	<10	500	1.0	7
SW036RK	38 27 18	119 17 5	.2	.15	.10	.05	500	N	<10	70	2.0	<5
SW037RK	38 28 8	119 16 15	.5	.10	.10	.20	100	N	10	700	1.0	<5
SW038RK	38 22 7	119 12 43	2.0	.70	1.00	.50	500	N	70	1,000	1.0	10
SW039RK	38 23 33	119 12 12	3.0	.50	3.00	.50	200	N	10	500	<1.0	20
SW040RK	38 22 14	119 14 47	2.0	1.00	3.00	.30	500	N	20	700	<1.0	20
SW041RK	38 26 33	119 18 12	2.0	.50	.15	.20	200	.5	10	300	1.5	N
SW042RK	38 27 53	119 14 56	1.5	.02	.07	.05	50	.5	20	20	5.0	N
SW043RK	38 26 14	119 18 57	.5	.10	<.05	.15	70	200.0	<10	300	5.0	N
SW044RK	38 26 19	119 16 26	.1	<.02	<.05	.05	10	N	10	20	1.0	N
SW045RK	38 25 29	119 17 10	.2	.02	<.05	.05	70	.5	<10	100	1.0	N
SW046RK	38 26 16	119 16 0	.7	.20	<.05	.20	150	50.0	10	500	1.5	N
SW047RK	38 26 13	119 16 12	.3	.20	<.05	.10	200	10.0	15	150	2.0	N
SW048RK	38 26 29	119 15 18	.7	.20	.05	.05	200	2.0	10	300	2.0	N
SW049RK	38 26 11	119 15 32	1.5	.30	.05	.20	150	3.0	15	300	2.0	N
SW050RK	38 27 24	119 14 55	.5	.20	.05	.07	100	1.5	20	150	2.0	N
SW051RK	38 26 27	119 16 40	.5	.10	<.05	.10	200	2.0	10	100	3.0	N
SW052RK	38 26 15	119 15 2	1.0	.20	.50	.15	200	<.5	<10	200	3.0	N
SW053RK	38 26 21	119 15 50	.5	.07	<.05	.03	100	70.0	<10	300	2.0	N
SW054RK	38 26 51	119 17 33	.7	.15	<.05	.07	150	<.5	15	100	2.0	N
SW055RK	38 26 16	119 14 53	.7	.20	.07	.10	100	.7	10	150	2.0	N

Table 2.--Data for rock samples, Sweetwater Roadless Area, California and Nevada

Sample	Cr-ppm s	Cu-ppm s	La-ppm s	Mo-ppm s	Nb-ppm s	Ni-ppm s	Pb-ppm s	Sc-ppm s	Sn-ppm s	Sr-ppm s	V-ppm s	W-ppm s	Y-ppm s
SW002RK	N	<5	70	N	<20	<5	70	N	N	100	15	N	N
SW003RK	N	<5	50	N	N	N	50	<5	N	<100	10	N	10
SW005RK	10	20	100	5	N	<5	100	10	N	700	70	N	50
SW006RK	N	N	100	10	20	N	70	N	N	N	<10	N	10
SW007RK	N	<5	50	N	N	N	10	<5	N	100	10	N	10
SW008RK	N	5	30	<5	N	<5	150	10	N	700	50	N	20
SW009RK	10	15	200	N	N	<5	50	5	N	300	70	N	20
SW010RK	20	10	70	5	N	5	50	5	N	700	100	N	20
SW013RK	<10	<5	30	N	N	<5	20	5	N	500	70	N	15
SW014RK	<10	<5	50	N	N	<5	20	5	N	300	50	N	20
SW015RK	50	10	50	7	N	15	30	10	N	700	100	N	15
SW016RK	15	10	50	<5	N	<5	30	7	N	1,000	200	N	15
SW017RK	N	N	100	N	<20	<5	50	<5	N	150	<10	N	<10
SW018RK	<10	5	70	N	<20	<5	100	5	N	150	30	N	20
SW019RK	N	<5	50	N	N	<5	50	5	N	200	30	N	10
SW020RK	10	<5	70	<5	N	<5	50	<5	N	300	50	N	10
SW021RK	<10	5	<20	<5	N	N	50	<5	N	100	10	N	10
SW026RK	<10	7	20	50	N	<5	30	5	N	200	70	N	N
SW027RK	10	20	30	20	N	<5	<10	5	N	200	50	N	10
SW028RK	N	<5	50	N	N	<5	10	<5	N	100	10	N	10
SW029RK	50	<5	50	5	N	N	30	5	N	1,000	150	N	N
SW030RK	N	<5	<20	N	N	N	10	<5	N	<100	10	N	N
SW031RK	30	10	30	100	N	<5	10	5	N	150	100	N	N
SW033RK	30	30	30	N	N	15	20	10	N	700	100	N	10
SW035RK	10	5	50	N	N	5	20	10	N	300	70	N	15
SW036RK	N	<5	50	N	<20	<5	15	<5	N	300	10	N	<10
SW037RK	N	<5	50	N	N	5	20	5	N	100	30	N	10
SW038RK	10	10	50	5	N	5	30	10	N	500	70	N	20
SW039RK	<10	30	30	N	N	10	20	15	N	500	150	N	10
SW040RK	20	20	30	<5	N	15	20	20	N	500	100	N	15
SW041RK	15	10	70	10	N	7	15	10	N	150	70	N	15
SW042RK	<10	10	20	70	<20	<5	20	5	N	N	20	N	<10
SW043RK	15	10	<20	20	N	5	30	5	N	200	30	N	N
SW044RK	<10	<5	30	5	20	5	10	<5	N	N	<10	N	N
SW045RK	N	<5	20	10	N	5	10	N	N	100	10	N	N
SW046RK	<10	10	20	200	N	7	50	7	N	150	70	N	<10
SW047RK	10	5	30	15	N	5	10	<5	N	N	30	N	N
SW048RK	<10	10	30	100	N	5	150	<5	10	100	30	N	<10
SW049RK	15	5	50	50	N	5	20	10	N	150	70	N	10
SW050RK	N	7	70	10	N	5	15	N	N	150	20	N	10
SW051RK	10	<5	50	20	20	7	20	5	N	N	20	N	<10
SW052RK	N	15	20	10	<20	5	10	5	N	150	20	N	10
SW053RK	<10	10	N	30	N	5	10	<5	N	100	15	N	N
SW054RK	N	<5	30	15	<20	<5	15	5	N	100	10	N	N
SW055RK	<10	15	20	100	N	5	15	5	N	100	20	N	10

Table 2.--Data for rock samples, Sweetwater Roadless Area, California and Nevada

Sample	Zr-ppm s	Th-ppm s	Zn-ppm aa	Cd-ppm aa	Bi-ppm aa	Sb-ppm aa	Au-ppm aa	As-ppm cm	FORMATION NAMES
SW002RK	70	N	20	<.05	<.5	1	--	N	RHYOLITE OF SWEETWATER MOUNTAINS
SW003RK	150	N	15	N	N	2	--	N	GRANITE OF DEVIL'S GATE-MACK CANYON
SW005RK	200	N	30	.05	N	1	--	N	STANISLAUS GROUP
SW006RK	100	N	15	N	N	1	--	N	RHYOLITE OF SWEETWATER MOUNTAINS
SW007RK	70	N	5	<.05	N	1	--	N	METAVOLCANIC AND METASEDIMENTARY ROCKS, UNDIVIDED
SW008RK	100	N	65	<.05	N	2	--	<10	METAVOLCANIC AND METASEDIMENTARY ROCKS, UNDIVIDED
SW009RK	70	N	20	<.05	N	2	--	N	GRANITE OF EAST FORK
SW010RK	200	N	30	.15	<.5	2	--	<10	STANISLAUS GROUP
SW013RK	50	N	10	.10	N	2	--	N	GRANITE OF DESERT CREEK
SW014RK	70	N	10	.10	N	2	--	N	GRANITE OF DESERT CREEK
SW015RK	150	N	10	<.05	<.5	2	--	N	RELIEF PEAK FORMATION
SW016RK	100	N	15	.10	N	2	--	N	RELIEF PEAK FORMATION
SW017RK	100	N	20	<.05	<.5	4	--	<10	RHYOLITE OF SWEETWATER MOUNTAINS
SW018RK	150	N	20	.15	<.5	2	--	N	RHYOLITE OF SWEETWATER MOUNTAINS
SW019RK	100	N	45	.10	N	2	--	N	GRANITE OF EAST FORK
SW020RK	150	N	25	.25	<.5	3	.008	40	RHYOLITE OF SWEETWATER MOUNTAINS
SW021RK	20	N	<5	.05	N	2	--	N	GRANITE OF DEVIL'S GATE-MACK CANYON
SW026RK	50	N	<5	N	<.5	2	.040	80	RHYOLITE OF SWEETWATER MOUNTAINS
SW027RK	100	N	10	.10	<.5	2	.002	N	GRANITE OF DESERT CREEK
SW028RK	70	N	<5	.05	<.5	2	--	N	METAVOLCANIC AND METASEDIMENTARY ROCKS, UNDIVIDED
SW029RK	100	N	<5	<.05	<.5	1	--	20	RHYOLITE OF SWEETWATER MOUNTAINS
SW030RK	100	N	N	<.05	1.0	1	--	N	METAVOLCANIC AND METASEDIMENTARY ROCKS, UNDIVIDED
SW031RK	70	N	15	<.05	<.5	5	.030	120	RELIEF PEAK FORMATION
SW033RK	150	N	45	<.05	.5	<1	--	N	RELIEF PEAK FORMATION
SW035RK	100	N	20	<.05	<.5	<1	--	N	GRANITE OF DESERT CREEK
SW036RK	70	N	30	.10	<.5	<1	--	N	RHYOLITE OF SWEETWATER MOUNTAINS
SW037RK	100	N	15	.10	<.5	<1	--	10	RHYOLITE OF SWEETWATER MOUNTAINS
SW038RK	200	N	25	.10	<.5	<1	--	N	STANISLAUS GROUP
SW039RK	100	N	25	<.05	<.5	N	--	N	RELIEF PEAK FORMATION
SW040RK	100	N	20	<.05	<.5	<1	--	N	RELIEF PEAK FORMATION
SW041RK	70	N	20	.10	1.5	2	.007	10	GRANITE OF EAST FORK
SW042RK	70	N	15	.05	1.5	5	.002	60	RHYOLITE OF SWEETWATER MOUNTAINS
SW043RK	50	N	N	.10	<.5	2	<.002	40	RHYOLITE OF SWEETWATER MOUNTAINS
SW044RK	70	N	N	.10	1.0	2	<.002	<10	RHYOLITE OF SWEETWATER MOUNTAINS
SW045RK	50	N	<5	N	N	5	.002	30	RHYOLITE OF SWEETWATER MOUNTAINS
SW046RK	200	N	5	.15	1.0	4	.065	60	RHYOLITE OF SWEETWATER MOUNTAINS - DUMP
SW047RK	100	N	N	.15	2.0	3	.010	30	RELIEF PEAK FORMATION
SW048RK	70	N	5	.10	1.0	4	.003	10	RHYOLITE OF SWEETWATER MOUNTAINS
SW049RK	70	N	<5	<.05	2.0	4	.036	80	RHYOLITE OF SWEETWATER MOUNTAINS
SW050RK	50	N	5	.10	2.5	3	.004	20	GRANITE OF EAST FORK
SW051RK	100	N	N	.10	1.0	2	N	20	RHYOLITE OF SWEETWATER MOUNTAINS
SW052RK	100	N	50	.15	1.0	3	<.002	N	GRANITE OF EAST FORK
SW053RK	15	N	<5	.10	.5	2	.063	40	RHYOLITE OF SWEETWATER MOUNTAINS
SW054RK	100	N	15	.10	1.0	2	.050	20	RHYOLITE OF SWEETWATER MOUNTAINS
SW055RK	100	N	<5	.05	1.0	2	.003	20	GRANITE OF EAST FORK

Table 2.--Data for rock samples, Sweetwater Roadless Area, California and Nevada--continued

Sample	Latitude	Longitude	Fe-pct. s	Mg-pct. s	Ca-pct. s	Ti-pct. s	Mn-ppm s	Ag-ppm s	B-ppm s	Ba-ppm s	Be-ppm s	Co-ppm s
SW056RK	38 25 34	119 17 55	.7	.30	.05	.70	100	5.0	15	500	2.0	N
SW057RK	38 27 6	119 14 29	1.0	.20	<.05	.20	100	N	10	700	2.0	N
SW058RK	38 26 1	119 17 47	1.5	.15	.05	.15	200	10.0	10	200	2.0	N
SW059RK	38 26 46	119 17 33	.5	.15	<.05	.10	150	.5	15	500	2.0	N
SW060RK	38 26 14	119 15 38	1.0	.30	.05	.20	70	1.5	20	500	3.0	N
SW061RK	38 26 4	119 15 54	.1	.70	.50	.20	100	.5	10	70	1.5	N
SW062RK	38 26 16	119 16 19	.5	.15	<.05	.07	100	100.0	10	500	1.5	N
SW063RK	38 26 19	119 18 29	.3	.15	.07	.10	150	N	70	200	2.0	N
SW064RK	38 24 32	119 14 48	.3	.02	<.05	.07	50	1.5	15	150	5.0	N
SW065RK	38 25 57	119 17 58	2.0	.20	<.05	.20	70	2.0	15	300	3.0	N
SW066RK	38 27 6	119 14 34	2.0	.50	.05	.30	100	.7	10	500	1.5	N
SW067RK	38 25 23	119 17 59	2.0	1.00	.15	.30	300	.5	10	200	3.0	20
SW068RK	38 27 44	119 15 18	3.0	<.02	.05	.02	70	20.0	10	100	7.0	N
SW069RK	38 26 9	119 17 23	.5	.10	.05	.05	200	1.5	20	150	2.0	N
SW070RK	38 26 53	119 16 30	.2	.50	.05	.20	200	N	30	500	2.0	N
SW071RK	38 27 35	119 14 33	.7	.02	.05	.07	70	2.0	10	100	3.0	N
SW072RK	38 27 13	119 15 32	.5	.05	<.05	.10	70	1.5	10	200	2.0	N
SW073RK	38 25 17	119 16 35	2.0	.02	<.05	.07	100	15.0	10	300	3.0	N
SW074RK	38 27 37	119 15 19	.2	.02	.05	.05	100	N	10	50	3.0	N
SW075RK	38 26 10	119 16 37	.5	.20	.05	.07	200	1.5	10	150	3.0	N
SW076RK	38 26 32	119 18 33	.5	.20	<.05	.07	100	.7	10	500	3.0	N
SW078RK	38 26 17	119 17 42	1.5	.50	<.05	.30	200	.5	<10	700	2.0	N
SW079RK	38 27 25	119 15 45	2.0	.20	<.05	.20	150	3.0	10	500	2.0	N
SW080RK	38 26 2	119 16 10	.7	.30	.20	.30	200	<.5	10	300	2.0	N
SW081RK	38 26 23	119 16 12	.5	.15	<.05	.15	150	3.0	10	500	2.0	N
SW082RK	38 26 13	119 17 3	1.0	.15	<.05	.15	70	.7	10	500	2.0	N
SW083RK	38 27 12	119 17 57	.7	.20	.05	.10	200	2.0	10	700	2.0	N
SW084RK	38 27 7	119 17 2	3.0	1.00	1.00	.50	700	N	10	700	2.0	20
SW085RK	38 27 7	119 17 11	.3	.05	<.05	.05	100	N	<10	50	2.0	N
SW086RK	38 26 22	119 15 23	.5	.15	.15	.30	50	3.0	10	100	2.0	N
SW087RK	38 27 11	119 18 47	.5	.07	<.05	.05	50	5.0	15	300	2.0	N
SW088RK	38 26 57	119 16 16	.2	.30	<.05	.15	200	30.0	15	300	3.0	N
SW089RK	38 25 36	119 18 3	1.0	.50	.07	.20	150	10.0	10	300	3.0	N
SW090RK	38 26 28	119 18 12	.5	.10	.05	.07	100	.5	15	200	2.0	N
SW091RK	38 25 29	119 17 51	.2	.07	.05	.20	100	1.0	10	300	1.5	N
SW092RK	38 27 5	119 18 3	.7	.20	.05	.15	100	3.0	<10	1,000	1.0	N
SW093RK	38 26 8	119 15 25	1.0	.20	.05	.15	200	3.0	10	500	1.5	N
SW094RK	38 26 12	119 16 50	.7	.15	<.05	.10	150	7.0	15	300	70.0	N
SW095RK	38 26 52	119 18 1	.5	.20	.05	.10	100	5.0	<10	200	3.0	N
SW096RK	38 26 19	119 15 55	3.0	.20	<.05	.10	150	100.0	10	300	1.5	N
SW097RK	38 26 7	119 16 33	.7	.20	<.05	.15	100	.7	<10	500	1.5	N
SW098RK	38 27 13	119 16 5	.5	.15	<.05	.07	200	.5	20	30	3.0	N
SW099RK	38 26 5	119 16 11	1.0	.30	.15	.20	150	2.0	10	700	2.0	N
SW100RK	38 27 25	119 15 40	2.0	.20	<.05	.20	200	5.0	10	500	3.0	N
SW101RK	38 26 15	119 16 35	.5	.20	<.05	.20	150	1.5	<10	1,000	1.0	N

Table 2.--Data for rock samples, Sweetwater Roadless Area, California and Nevada--continued

Sample	Cr-ppm s	Cu-ppm s	La-ppm s	Mo-ppm s	Nb-ppm s	Ni-ppm s	Pb-ppm s	Sc-ppm s	Sn-ppm s	Sr-ppm s	V-ppm s	W-ppm s	Y-ppm s
SW056RK	50	15	<20	15	N	5	10	N	N	200	150	N	10
SW057RK	<10	15	20	5	<20	<5	10	5	N	150	50	N	10
SW058RK	<10	15	<20	50	N	10	10	5	N	150	50	N	<10
SW059RK	<10	<5	<20	N	N	5	15	<5	N	150	20	N	<10
SW060RK	<10	10	N	50	N	5	15	5	10	100	50	<50	N
SW061RK	10	<5	<20	N	N	5	10	7	N	200	50	N	15
SW062RK	N	<5	N	15	N	7	100	N	N	150	20	<50	N
SW063RK	N	<5	70	5	<20	<5	15	<5	N	N	10	N	15
SW064RK	10	5	30	10	<20	5	10	N	N	150	20	<50	<10
SW065RK	15	10	20	50	N	10	10	7	N	100	70	N	<10
SW066RK	15	10	<20	50	N	5	15	10	N	200	70	N	10
SW067RK	20	30	<20	10	N	20	20	15	N	200	100	N	10
SW068RK	10	7	200	15	N	5	15	5	N	200	10	N	100
SW069RK	<10	7	20	20	N	5	10	<5	N	<100	30	N	10
SW070RK	N	<5	50	5	<20	<5	15	7	N	150	50	N	10
SW071RK	<10	<5	50	<5	20	7	15	<5	N	N	15	N	<10
SW072RK	10	7	50	<5	<20	5	10	<5	N	100	15	N	<10
SW073RK	<10	10	50	30	<20	7	20	5	N	150	20	N	10
SW074RK	10	<5	20	N	20	5	20	N	N	100	10	<50	N
SW075RK	<10	5	50	20	20	7	15	<5	N	100	30	N	<10
SW076RK	<10	5	N	N	N	5	15	5	N	200	15	N	<10
SW078RK	<10	10	20	N	<20	5	30	7	N	300	50	N	15
SW079RK	10	10	50	20	N	5	15	7	N	100	70	N	10
SW080RK	15	7	20	5	<20	5	15	10	N	150	70	<50	10
SW081RK	10	<5	30	20	N	<5	10	5	N	100	30	N	<10
SW082RK	N	5	20	10	N	<5	20	5	N	100	50	N	10
SW083RK	N	7	30	10	N	7	15	5	N	200	20	N	10
SW084RK	20	20	70	5	<20	7	20	15	N	300	100	N	20
SW085RK	<10	<5	N	7	<20	5	15	N	N	N	<10	N	N
SW086RK	20	<5	30	N	N	7	15	15	N	200	100	N	10
SW087RK	N	7	20	100	N	5	10	<5	N	200	30	N	<10
SW088RK	N	5	50	7	<20	5	10	5	N	100	30	N	10
SW089RK	20	10	<20	30	N	10	10	7	N	200	70	N	<10
SW090RK	N	<5	30	15	<20	5	20	5	N	150	15	N	10
SW091RK	N	<5	70	15	20	5	15	5	N	100	20	N	15
SW092RK	<10	7	50	7	N	<5	15	5	N	200	20	N	10
SW093RK	10	10	<20	200	N	7	20	7	N	100	20	<50	<10
SW094RK	N	7	<20	10	N	5	10	<5	N	200	20	N	<10
SW095RK	<10	7	<20	20	N	<5	20	5	N	N	50	N	N
SW096RK	<10	15	20	500	N	<5	30	<5	N	<100	70	N	10
SW097RK	<10	<5	20	10	<20	<5	15	5	N	200	30	N	<10
SW098RK	<10	<5	50	5	20	<5	20	N	N	N	<10	N	<10
SW099RK	<10	<5	<20	20	20	5	20	7	N	200	50	N	10
SW100RK	10	15	50	10	<20	5	15	5	N	100	50	N	<10
SW101RK	N	<5	50	20	<20	<5	10	5	N	200	50	<50	10

Table 2.--Data for rock samples, Sweetwater Roadless Area, California and Nevada--continued

Sample	Zr-ppm s	Th-ppm s	Zn-ppm aa	Cd-ppm aa	Bi-ppm aa	Sb-ppm aa	Au-ppm aa	As-ppm cm	FORMATION NAMES
SW056RK	100	N	N	.10	<.5	3	.063	100	RHYOLITE OF SWEETWATER MOUNTAINS
SW057RK	200	N	<5	.10	1.0	5	.002	40	RHYOLITE OF SWEETWATER MOUNTAINS
SW058RK	50	N	10	.10	N	3	.038	60	RHYOLITE OF SWEETWATER MOUNTAINS
SW059RK	100	N	10	.10	N	2	.016	20	RHYOLITE OF SWEETWATER MOUNTAINS
SW060RK	150	N	10	.30	1.5	<1	<.002	20	GRANITE OF EAST FORK
SW061RK	100	N	<5	N	2.0	1	.004	<10	GRANITE OF EAST FORK
SW062RK	70	N	5	.15	1.5	2	.025	20	RHYOLITE OF SWEETWATER MOUNTAINS
SW063RK	100	N	<5	<.05	2.0	2	.002	10	RHYOLITE OF SWEETWATER MOUNTAINS
SW064RK	70	N	<5	.10	1.5	10	.045	160	RHYOLITE OF SWEETWATER MOUNTAINS - DUMP
SW065RK	70	N	N	.05	.5	4	.007	120	RHYOLITE OF SWEETWATER MOUNTAINS
SW066RK	100	N	10	.10	1.5	3	.010	30	GRANITE OF EAST FORK
SW067RK	100	N	80	.10	1.5	4	.013	120	RELIEF PEAK FORMATION
SW068RK	20	N	5	.05	N	30	.350	200	RHYOLITE OF SWEETWATER MOUNTAINS - DUMP
SW069RK	70	N	<5	<.05	1.0	10	.008	80	RHYOLITE OF SWEETWATER MOUNTAINS
SW070RK	150	N	10	.05	1.0	2	<.002	10	RHYOLITE OF SWEETWATER MOUNTAINS
SW071RK	70	N	N	<.05	1.0	2	.027	60	RHYOLITE OF SWEETWATER MOUNTAINS
SW072RK	100	N	5	.10	<.5	3	.008	40	RHYOLITE OF SWEETWATER MOUNTAINS - DUMP
SW073RK	100	N	N	.15	.5	35	.210	300	RHYOLITE OF SWEETWATER MOUNTAINS
SW074RK	100	N	N	.05	2.0	3	.005	20	RHYOLITE OF SWEETWATER MOUNTAINS
SW075RK	100	N	N	.05	1.5	2	<.002	30	RHYOLITE OF SWEETWATER MOUNTAINS - DUMP
SW076RK	70	N	5	<.05	<.5	2	.006	20	RHYOLITE OF SWEETWATER MOUNTAINS
SW078RK	150	N	70	.15	2.0	2	.006	40	RHYOLITE OF SWEETWATER MOUNTAINS
SW079RK	100	N	<5	.10	1.0	10	.006	80	RHYOLITE OF SWEETWATER MOUNTAINS
SW080RK	150	N	10	.10	1.5	1	N	20	GRANITE OF EAST FORK
SW081RK	100	N	<5	.15	1.0	5	.006	80	RHYOLITE OF SWEETWATER MOUNTAINS - DUMP
SW082RK	150	N	<5	.05	1.5	2	.008	40	RHYOLITE OF SWEETWATER MOUNTAINS
SW083RK	150	N	N	.20	1.0	<1	N	20	RHYOLITE OF SWEETWATER MOUNTAINS
SW084RK	200	N	40	.15	<.5	1	<.002	20	GRANITE OF EAST FORK
SW085RK	50	N	5	.05	2.0	2	<.002	N	RHYOLITE OF SWEETWATER MOUNTAINS
SW086RK	100	N	N	.10	1.0	<1	.002	30	GRANITE OF EAST FORK
SW087RK	70	N	<5	.10	2.0	4	.028	40	RHYOLITE OF SWEETWATER MOUNTAINS
SW088RK	100	N	<5	<.05	2.0	4	.012	20	RHYOLITE OF SWEETWATER MOUNTAINS
SW089RK	100	N	15	.10	1.0	2	.003	60	RHYOLITE OF SWEETWATER MOUNTAINS
SW090RK	70	N	10	N	2.0	2	<.002	30	RHYOLITE OF SWEETWATER MOUNTAINS
SW091RK	150	N	<5	.10	1.5	2	.003	30	RHYOLITE OF SWEETWATER MOUNTAINS
SW092RK	150	N	5	.10	1.0	1	N	10	RHYOLITE OF SWEETWATER MOUNTAINS
SW093RK	100	N	5	.10	2.0	2	.002	40	GRANITE OF EAST FORK
SW094RK	100	N	<5	.10	2.5	3	.006	30	RHYOLITE OF SWEETWATER MOUNTAINS
SW095RK	70	N	N	.15	N	1	.005	20	RHYOLITE OF SWEETWATER MOUNTAINS
SW096RK	100	N	N	.10	1.0	25	.051	300	RHYOLITE OF SWEETWATER MOUNTAINS - DUMP
SW097RK	100	N	<5	<.05	1.5	3	.002	30	RHYOLITE OF SWEETWATER MOUNTAINS
SW098RK	70	N	<5	.05	<.5	2	.002	20	RHYOLITE OF SWEETWATER MOUNTAINS
SW099RK	200	N	N	.10	1.5	1	N	10	RHYOLITE OF SWEETWATER MOUNTAINS
SW100RK	150	N	<5	.10	1.5	10	.005	30	RHYOLITE OF SWEETWATER MOUNTAINS
SW101RK	200	N	<5	.10	1.0	2	.002	40	RHYOLITE OF SWEETWATER MOUNTAINS

Table 2.--Data for rock samples, Sweetwater Roadless Area, California and Nevada--continued

Sample	Latitude	Longitude	Fe-pct. s	Mg-pct. s	Ca-pct. s	Ti-pct. s	Mn-ppm s	Ag-ppm s	B-ppm s	Ba-ppm s	Be-ppm s	Co-ppm s
SW102RK	38 26 43	119 15 52	1.0	.30	<.05	.15	200	300.0	10	500	2.0	N
SW103RK	38 25 52	119 18 50	.5	.10	<.05	.07	100	2.0	15	300	2.0	N
SW104RK	38 31 48	119 17 18	.7	.10	.10	.05	100	<.5	30	150	3.0	N
SW105RK	38 25 3	119 17 6	1.0	.15	<.05	.30	70	2.0	<10	700	2.0	N
SW106RK	38 26 5	119 16 16	2.0	.50	.05	.20	200	.7	10	1,000	2.0	N
SW107RK	38 26 47	119 17 51	2.0	.30	.10	.15	500	1.0	10	200	2.0	7
SW108RK	38 26 31	119 15 52	1.0	.50	<.05	.15	300	50.0	15	500	2.0	N
SW109RK	38 24 24	119 15 5	3.0	1.00	.10	.50	300	.5	10	200	2.0	15
SW110RK	38 25 8	119 14 36	1.0	.50	.20	.20	200	1.0	10	300	3.0	<5
SW111RK	38 26 23	119 17 51	.2	.10	<.05	.05	100	30.0	20	150	50.0	N
SW112RK	38 26 47	119 15 23	1.5	.50	.15	.20	150	.5	15	300	1.5	N
SW113RK	38 26 43	119 17 44	.3	.20	<.05	.07	150	1.0	<10	150	1.5	N
SW114RK	38 24 15	119 11 10	1.0	<.02	<.05	.70	50	5.0	<10	2,000	<1.0	N
SW115RK	38 25 2	119 13 45	.7	.07	.30	.05	500	.5	100	150	5.0	N
WL0051RK	38 22 14	119 20 48	.7	.15	.20	.10	1,000	N	10	200	5.0	<5
WL0493RK	38 27 2	119 26 20	2.0	.50	1.00	.30	700	N	N	1,500	7.0	N
WL0547RK	38 35 0	119 19 31	2.0	.70	1.00	.30	500	N	50	1,000	1.0	10
WL0548RK	38 32 54	119 19 14	.5	1.00	1.50	.50	200	N	N	100	<1.0	N
WL0549RK	38 31 55	119 15 29	.5	.10	.20	.10	700	N	70	150	5.0	N
WL0550RK	38 31 0	119 15 51	.3	.02	.20	.05	300	N	N	<20	5.0	N
WL0551RK	38 30 6	119 15 57	.5	.10	.20	.20	500	N	N	50	3.0	N
WL0555RK	38 28 51	119 14 58	3.0	1.50	2.00	.50	300	N	10	700	<1.0	20
WL0584RK	38 28 41	119 20 43	.5	.10	.30	.50	500	N	50	300	3.0	N
WL0588RK	38 25 9	119 24 52	5.0	2.00	5.00	.50	1,000	N	20	1,000	<1.0	20
WL0589RK	38 23 2	119 25 33	2.0	.70	2.00	.70	500	N	20	1,000	1.0	10
WL0591RK	38 21 6	119 19 13	.5	.10	.20	.20	500	N	N	700	1.0	N
WL0595RK	38 19 17	119 15 2	.7	.10	.20	.20	300	N	N	700	2.0	N
WL0596RK	38 19 50	119 14 9	1.5	.50	1.50	.50	700	N	70	1,500	3.0	7
WL0597RK	38 20 34	119 13 32	.3	.10	.20	.10	500	N	N	500	2.0	N
WL0627RK	38 22 17	119 12 21	2.0	1.50	2.00	.50	500	N	20	700	1.0	10
WL0628RK	38 24 16	119 10 41	3.0	.50	1.50	.50	300	N	15	1,000	1.5	15
WL0629RK	38 24 35	119 12 6	2.0	.10	1.50	.50	300	<.5	10	1,000	1.5	7
WL0630RK	38 25 49	119 13 30	.7	.03	.20	.10	700	N	70	50	5.0	N
WL0631RK	38 26 0	119 14 29	.2	<.02	.05	.07	50	N	N	200	<1.0	N
WL0632RK	38 27 3	119 14 34	1.5	1.00	2.00	.50	700	N	10	1,000	1.5	10
WL0633RK	38 27 28	119 14 19	.3	<.02	<.05	.07	70	N	N	50	1.0	N
WL0634RK	38 28 3	119 14 20	.5	.10	.20	.10	300	<.5	20	100	5.0	N

Table 2.--Data for rock samples, Sweetwater Roadless Area, California and Nevada--continued

Sample	Cr-ppm s	Cu-ppm s	La-ppm s	Mo-ppm s	Nb-ppm s	Ni-ppm s	Pb-ppm s	Sc-ppm s	Sn-ppm s	Sr-ppm s	V-ppm s	W-ppm s	Y-ppm s
SW102RK	10	20	<20	20	N	7	15	5	N	100	70	50	<10
SW103RK	<10	<5	<20	7	N	5	10	<5	N	100	20	N	N
SW104RK	N	5	100	7	<20	5	20	5	N	100	15	N	20
SW105RK	10	10	50	7	N	5	10	7	N	200	70	N	<10
SW106RK	<10	10	100	10	20	5	20	7	N	200	50	N	15
SW107RK	15	15	70	50	<20	7	20	5	N	100	30	N	15
SW108RK	<10	15	30	20	N	7	70	5	N	150	70	N	10
SW109RK	15	15	30	10	N	15	10	15	N	150	100	50	15
SW110RK	<10	20	<20	5	N	7	20	7	N	200	50	50	10
SW111RK	N	5	20	20	N	<5	20	<5	N	150	50	N	<10
SW112RK	15	15	<20	7	N	5	10	10	N	200	70	N	<10
SW113RK	<10	5	20	10	N	5	<10	<5	N	100	50	N	<10
SW114RK	15	10	70	5	N	<5	15	10	N	100	70	N	15
SW115RK	N	<5	50	5	20	5	30	<5	N	100	10	<50	10
WL0051RK	<10	<5	50	N	<20	5	50	N	N	N	10	N	10
WL0493RK	<10	20	50	N	<20	N	30	7	N	700	70	N	20
WL0547RK	20	15	70	N	<20	5	50	10	N	500	150	N	20
WL0548RK	10	<5	50	N	N	5	15	20	N	500	150	N	50
WL0549RK	<10	<5	70	N	<20	5	50	5	N	100	30	N	<10
WL0550RK	N	N	50	N	20	<5	50	<5	N	N	30	N	10
WL0551RK	N	N	100	N	N	<5	50	<5	N	N	30	N	<10
WL0555RK	50	20	20	N	N	20	15	15	N	700	150	N	15
WL0584RK	N	N	100	N	N	<5	50	<5	N	200	20	N	10
WL0588RK	20	20	50	N	N	20	20	15	N	1,000	300	N	20
WL0589RK	<10	20	100	5	N	7	50	15	N	1,000	200	N	20
WL0591RK	<10	N	50	N	N	<5	<10	5	N	100	30	N	30
WL0595RK	<10	<5	50	N	<20	5	20	7	N	100	50	N	10
WL0596RK	20	10	100	<5	N	7	30	10	N	700	150	N	20
WL0597RK	N	N	20	N	N	<5	15	5	N	<100	20	N	10
WL0627RK	50	20	20	N	N	30	20	15	N	700	200	N	15
WL0628RK	20	50	50	N	N	10	30	10	N	700	200	N	15
WL0629RK	N	15	30	N	N	5	20	<5	N	1,000	200	N	10
WL0630RK	N	N	70	5	20	N	50	<5	N	N	<10	N	N
WL0631RK	<10	10	50	10	20	N	20	<5	N	200	70	<50	N
WL0632RK	20	20	50	<5	N	10	20	15	N	500	150	N	15
WL0633RK	<10	10	50	<5	20	<5	50	<5	N	N	20	N	N
WL0634RK	N	<5	50	N	<20	<5	30	5	N	100	50	N	10

Table 2.--Data for rock samples, Sweetwater Roadless Area, California and Nevada--continued

Sample	Zr-ppm s	Th-ppm s	Zn-ppm aa	Cd-ppm aa	Bi-ppm aa	Sb-ppm aa	Au-ppm aa	As-ppm cm	FORMATION NAMES
SW102RK	100	N	N	<.05	1.0	10	.052	10	RHYOLITE OF SWEETWATER MOUNTAINS - DUMP
SW103RK	100	N	5	.05	2.0	4	.020	60	RHYOLITE OF SWEETWATER MOUNTAINS
SW104RK	70	N	5	.30	1.0	2	.016	<10	GRANITE OF EAST FORK
SW105RK	150	N	N	.05	<.5	2	.006	60	RHYOLITE OF SWEETWATER MOUNTAINS
SW106RK	200	N	15	.10	.5	2	.003	60	RHYOLITE OF SWEETWATER MOUNTAINS
SW107RK	100	N	40	.20	1.0	2	.002	30	RHYOLITE OF SWEETWATER MOUNTAINS - DUMP
SW108RK	150	N	N	.15	<.5	10	.025	60	RHYOLITE OF SWEETWATER MOUNTAINS
SW109RK	100	N	45	<.05	.5	4	.050	160	RHYOLITE OF SWEETWATER MOUNTAINS - DUMP
SW110RK	150	N	150	.40	<.5	1	<.002	N	GRANITE OF EAST FORK
SW111RK	50	N	5	.05	2.5	5	.003	20	RHYOLITE OF SWEETWATER MOUNTAINS - DUMP
SW112RK	70	N	30	.05	<.5	4	.003	40	GRANITE OF EAST FORK
SW113RK	70	N	<5	.15	<.5	3	.002	20	RHYOLITE OF SWEETWATER MOUNTAINS
SW114RK	200	N	N	.10	2.0	10	.065	20	RELIEF PEAK FORMATION - DUMP
SW115RK	50	N	<5	.05	2.5	5	.018	30	RHYOLITE OF SWEETWATER MOUNTAINS
WL0051RK	70	N	25	.05	N	<1	--	N	RHYOLITE OF SWEETWATER MOUNTAINS
WL0493RK	300	N	50	.10	.5	2	--	N	GRANITE OF MILL CREEK
WL0547RK	150	N	65	.05	1.0	1	--	N	RELIEF PEAK FORMATION
WL0548RK	100	N	65	N	1.0	2	--	N	GRANITE OF DESERT CREEK
WL0549RK	100	N	10	.10	N	2	--	10	RHYOLITE OF SWEETWATER MOUNTAINS
WL0550RK	70	N	50	<.05	N	2	--	N	RHYOLITE OF SWEETWATER MOUNTAINS
WL0551RK	70	N	65	N	N	2	--	N	RHYOLITE OF SWEETWATER MOUNTAINS
WL0555RK	100	N	35	<.05	N	2	--	N	RHYOLITE OF SWEETWATER MOUNTAINS
WL0584RK	100	N	45	<.05	N	2	--	N	RHYOLITE OF SWEETWATER MOUNTAINS
WL0588RK	100	N	20	.10	.5	2	--	N	RELIEF PEAK FORMATION
WL0589RK	150	N	35	.05	<.5	2	--	N	STANISLAUS GROUP
WL0591RK	100	N	15	.05	<.5	2	--	N	GRANITE OF DEVIL'S GATE-MACK CANYON
WL0595RK	100	N	20	.10	N	2	--	N	GRANITE OF DEVIL'S GATE-MACK CANYON
WL0596RK	200	N	50	.20	1.0	2	--	N	RELIEF PEAK FORMATION
WL0597RK	100	N	30	<.05	N	2	--	N	GRANITE OF DEVIL'S GATE-MACK CANYON
WL0627RK	100	N	40	.15	<.5	2	--	N	RELIEF PEAK FORMATION
WL0628RK	100	N	40	.05	N	2	--	N	RELIEF PEAK FORMATION
WL0629RK	100	N	15	.05	<.5	2	--	N	RELIEF PEAK FORMATION
WL0630RK	100	N	10	<.05	N	2	--	N	RHYOLITE OF SWEETWATER MOUNTAINS
WL0631RK	100	N	<5	<.05	<.5	5	--	10	RHYOLITE OF SWEETWATER MOUNTAINS
WL0632RK	100	N	45	<.05	<.5	2	--	N	GRANITE OF EAST FORK
WL0633RK	100	<200	<5	<.05	N	2	--	N	RHYOLITE OF SWEETWATER MOUNTAINS
WL0634RK	100	N	10	.05	N	2	--	N	RHYOLITE OF SWEETWATER MOUNTAINS

Table 3.--Data for stream-sediment samples, Sweetwater Roadless Area, California and Nevada

Sample	Latitude	Longitude	Fe-pct. s	Mg-pct. s	Ca-pct. s	Ti-pct. s	Mn-ppm s	Ag-ppm s	B-ppm s	Ba-ppm s	Be-ppm s
SW001SS	38 22 30	119 20 54	5.0	1.00	2.00	.70	1,000	N	10	700	1.5
SW002SS	38 22 54	119 20 31	2.0	.50	1.00	.50	500	N	N	500	1.5
SW003SS	38 22 57	119 20 42	5.0	.70	1.00	.70	1,000	N	10	1,500	1.0
SW004SS	38 20 21	119 17 29	5.0	.70	1.50	.70	1,500	N	20	1,500	1.0
SW005SS	38 24 28	119 23 0	15.0	1.00	1.50	1.00	3,000	N	10	1,500	<1.0
SW006SS	38 25 49	119 20 59	5.0	.50	1.00	.50	700	N	10	1,000	1.5
SW007SS	38 25 25	119 22 55	5.0	1.00	5.00	.50	2,000	N	10	1,000	1.0
SW008SS	38 18 15	119 15 34	3.0	.50	2.00	.50	700	N	20	2,000	1.5
SW009SS	38 32 44	119 17 9	5.0	.50	1.00	.50	1,000	N	15	1,000	1.0
SW010SS	38 17 20	119 16 32	7.0	1.00	1.00	1.00	1,500	N	15	1,000	1.0
SW011SS	38 34 47	119 18 14	10.0	.70	1.00	1.00	1,500	N	<10	1,000	<1.0
SW012SS	38 34 13	119 19 39	5.0	.50	1.00	.70	1,000	N	20	1,000	1.0
SW013SS	38 33 38	119 21 17	3.0	.50	1.00	.70	1,000	N	10	1,000	<1.0
SW014SS	38 33 30	119 21 10	3.0	.50	1.00	.70	1,500	N	10	1,000	<1.0
SW017SS	38 28 31	119 15 59	2.0	.50	1.00	.30	700	N	10	200	1.5
SW018SS	38 28 20	119 15 48	5.0	.20	.10	.30	1,000	N	<10	700	3.0
SW019SS	38 24 17	119 15 24	3.0	.70	1.00	.50	1,000	N	10	500	1.0
SW020SS	38 24 19	119 15 9	3.0	.50	.50	.30	500	N	<10	300	1.5
SW022SS	38 24 27	119 13 40	7.0	.70	1.50	.70	1,000	N	<10	1,000	<1.0
SW023SS	38 24 37	119 13 40	5.0	.30	.50	.50	2,000	N	10	1,000	2.0
SW024SS	38 31 1	119 20 26	10.0	.50	1.00	1.00	1,000	N	<10	1,000	1.0
SW025SS	38 30 59	119 20 15	7.0	.50	1.00	.70	1,000	N	10	1,000	1.0
SW033SS	38 27 20	119 19 48	2.0	.50	.15	.50	300	<.5	10	100	1.0
SW034SS	38 31 48	119 19 37	5.0	1.00	5.00	.50	700	N	10	500	1.0
SW035SS	38 32 13	119 19 32	3.0	1.50	3.00	.70	700	N	20	500	<1.0
SW036SS	38 27 18	119 17 5	1.0	.30	.10	.30	1,000	.5	<10	300	1.5
SW037SS	38 28 8	119 16 15	2.0	1.00	2.00	.30	500	N	30	200	1.0
SW038SS	38 22 7	119 12 43	3.0	1.00	1.50	.70	300	N	20	300	<1.0
SW039SS	38 23 33	119 12 12	1.5	.70	2.00	.30	500	N	15	500	1.0
SW040SS	38 22 14	119 14 47	3.0	1.50	2.00	.70	700	N	15	300	1.0
WL0051SS	38 22 14	119 20 48	2.0	.70	1.00	.50	700	N	15	500	1.5
WL0493SS	38 27 2	119 26 20	5.0	1.50	3.00	.70	1,000	N	50	1,000	3.0
WL0494SS	38 27 8	119 26 15	5.0	1.50	3.00	1.00	1,000	N	50	1,000	2.0
WL0537SS	38 21 30	119 24 58	3.0	1.00	2.00	.70	1,000	N	70	1,000	3.0
WL0547SS	38 35 0	119 19 31	1.5	.50	1.00	.50	1,000	N	20	700	1.5
WL0548SS	38 32 54	119 19 14	3.0	.70	2.00	.50	700	N	20	1,000	2.0
WL0549SS	38 31 55	119 15 29	1.5	.50	1.00	.30	1,000	N	50	700	2.0
WL0550SS	38 31 0	119 15 51	3.0	2.00	2.00	.70	1,000	N	50	700	3.0
WL0551SS	38 30 6	119 15 57	5.0	1.50	2.00	.70	1,000	N	20	700	3.0
WL0555SS	38 28 51	119 14 58	.5	.05	.05	.10	500	.7	N	200	2.0
WL0584SS	38 28 41	119 20 43	1.5	.50	.20	.50	1,000	<.5	50	1,000	2.0
WL0585SS	38 28 33	119 20 56	2.0	.70	1.00	.50	700	N	30	1,000	1.0
WL0586SS	38 26 11	119 21 47	2.0	.50	1.00	.50	1,000	N	20	1,000	2.0
WL0587SS	38 25 14	119 24 42	5.0	2.00	3.00	.70	1,000	N	20	700	2.0
WL0588SS	38 25 9	119 24 52	5.0	1.50	2.00	1.00	1,000	N	70	1,500	2.0

Table 3.--Data for stream-sediment samples, Sweetwater Roadless Area, California and Nevada

Sample	Co-ppm s	Cr-ppm s	Cu-ppm s	La-ppm s	Mo-ppm s	Nb-ppm s	Ni-ppm s	Pb-ppm s	Sc-ppm s	Sn-ppm s	Sr-ppm s
SW001SS	20	100	30	70	N	N	30	50	15	N	700
SW002SS	5	30	5	70	N	<20	<5	30	7	N	300
SW003SS	7	50	7	70	N	<20	5	50	10	N	500
SW004SS	15	50	30	70	N	<20	20	50	10	N	700
SW005SS	20	50	30	100	N	N	15	50	20	N	500
SW006SS	15	50	20	70	N	<20	7	50	7	N	500
SW007SS	20	70	30	50	<5	N	20	50	10	N	1,000
SW008SS	15	50	10	70	N	N	7	70	7	N	1,000
SW009SS	10	150	30	50	7	<20	70	50	7	N	300
SW010SS	20	500	50	50	5	N	100	50	10	N	700
SW011SS	20	70	30	100	5	<20	5	30	10	N	500
SW012SS	15	50	20	100	<5	N	7	30	7	N	500
SW013SS	10	30	20	70	<5	<20	5	30	10	N	500
SW014SS	10	30	50	50	<5	N	5	30	10	N	300
SW017SS	5	20	7	70	7	<20	5	20	5	N	200
SW018SS	7	20	10	50	15	<20	<5	30	5	N	150
SW019SS	10	50	10	100	7	N	15	30	7	N	500
SW020SS	10	50	20	100	5	N	5	30	5	N	200
SW022SS	15	70	20	70	5	N	15	30	10	N	700
SW023SS	15	50	20	50	20	<20	20	50	7	N	500
SW024SS	15	50	30	50	5	<20	10	30	7	N	500
SW025SS	10	50	20	70	10	<20	5	50	7	N	500
SW033SS	15	15	15	30	7	N	7	30	7	N	200
SW034SS	20	50	15	70	5	N	7	20	15	N	700
SW035SS	15	50	15	30	<5	N	10	20	15	N	700
SW036SS	10	10	10	50	15	<20	7	30	5	N	100
SW037SS	10	30	15	30	5	N	10	20	10	N	300
SW038SS	20	30	15	30	N	N	10	20	10	N	500
SW039SS	15	30	20	30	<5	N	15	20	10	N	500
SW040SS	20	70	20	50	N	N	15	20	15	N	500
WL0051SS	10	50	20	30	N	N	15	20	7	N	500
WL0493SS	15	50	30	50	<5	N	15	30	10	N	1,000
WL0494SS	20	50	20	50	N	N	20	20	20	N	1,000
WL0537SS	10	30	30	50	<5	N	15	20	10	N	300
WL0547SS	7	20	15	50	N	<20	5	30	10	N	500
WL0548SS	10	20	20	30	<5	N	<5	20	10	N	500
WL0549SS	7	20	15	30	N	<20	5	50	10	N	500
WL0550SS	10	10	15	70	N	<20	5	20	15	N	500
WL0551SS	10	10	15	50	N	20	N	20	10	N	500
WL0555SS	N	10	10	20	5	N	<5	20	5	N	100
WL0584SS	7	20	15	30	7	<20	10	30	7	N	300
WL0585SS	10	50	15	30	N	N	10	50	10	N	700
WL0586SS	10	50	15	50	N	<20	15	50	10	N	500
WL0587SS	15	50	20	30	N	N	20	15	15	N	700
WL0588SS	15	30	30	50	N	N	15	20	10	N	500

Table 3.--Data for stream-sediment samples, Sweetwater Roadless Area, California and Nevada

Sample	V-ppm s	Y-ppm s	Zr-ppm s	Th-ppm s	Zn-ppm aa	Cd-ppm aa	Bi-ppm aa	Sb-ppm aa	Au-ppm aa	As-ppm cm
SW001SS	200	20	200	N	45	.05	<.5	2	--	N
SW002SS	100	20	150	N	15	<.05	<.5	1	--	N
SW003SS	150	50	300	N	25	<.05	<.5	2	--	N
SW004SS	200	30	200	N	50	.10	<.5	1	--	N
SW005SS	500	20	150	N	40	.05	.5	1	--	N
SW006SS	200	20	150	N	35	.10	<.5	1	--	N
SW007SS	200	20	100	N	30	<.05	<.5	1	--	N
SW008SS	150	15	150	N	40	<.05	N	2	--	N
SW009SS	150	20	200	N	60	.20	<.5	2	--	N
SW010SS	300	20	150	N	65	.15	N	2	--	N
SW011SS	300	30	500	N	45	<.05	N	3	--	N
SW012SS	200	30	100	N	35	.10	<.5	2	--	N
SW013SS	100	.50	200	N	40	.10	<.5	<1	--	N
SW014SS	150	30	200	N	35	.10	<.5	2	--	N
SW017SS	70	15	100	N	40	.10	<.5	2	--	N
SW018SS	50	15	200	N	80	.20	7.0	2	--	20
SW019SS	150	20	150	N	40	.15	<.5	2	--	N
SW020SS	100	20	500	N	60	.30	4.0	2	--	N
SW022SS	300	20	300	N	45	.10	1.5	4	--	N
SW023SS	150	20	150	N	120	.25	<.5	3	--	20
SW024SS	200	15	200	N	45	<.05	<.5	2	--	N
SW025SS	200	20	150	N	60	.10	N	3	--	N
SW033SS	70	10	100	N	55	.30	<.5	1	.480	10
SW034SS	200	15	200	N	65	.30	N	<1	--	N
SW035SS	150	20	150	N	80	.30	<.5	<1	--	N
SW036SS	50	10	150	N	75	.45	.5	1	.014	20
SW037SS	150	15	70	N	55	.35	.5	2	--	<10
SW038SS	150	15	150	N	70	.35	<.5	<1	--	N
SW039SS	100	10	100	N	60	.35	.5	<1	--	<10
SW040SS	200	20	150	N	50	.25	N	1	--	N
WL0051SS	100	20	150	N	35	.15	2.5	1	--	N
WL0493SS	300	20	500	N	40	<.05	1.0	2	--	N
WL0494SS	500	20	300	N	40	<.05	.5	2	--	N
WL0537SS	200	20	300	N	45	.10	N	3	--	N
WL0547SS	150	30	200	N	30	<.05	<.5	2	--	N
WL0548SS	200	20	1,000	N	40	.10	<.5	2	--	N
WL0549SS	150	20	200	N	40	.20	.5	2	--	N
WL0550SS	200	30	300	<200	50	N	<.5	2	--	N
WL0551SS	200	30	1,000	N	50	.05	.5	2	--	N
WL0555SS	70	<10	100	N	65	.15	.5	3	--	<10
WL0584SS	150	10	100	N	45	N	.5	2	.010	<10
WL0585SS	150	20	200	N	40	<.05	N	2	--	N
WL0586SS	150	20	200	N	45	.10	.5	2	--	N
WL0587SS	200	20	200	N	30	.05	N	2	--	N
WL0588SS	200	20	500	N	50	.05	N	2	--	N

Table 3.--Data for stream-sediment samples, Sweetwater Roadless Area, California and Nevada--continued

Sample	Latitude	Longitude	Fe-pct. s	Mg-pct. s	Ca-pct. s	Ti-pct. s	Mn-ppm s	Ag-ppm s	B-ppm s	Ba-ppm s	Be-ppm s
WL0589SS	38 23 2	119 25 33	2.0	.50	1.00	.50	700	N	50	1,000	1.0
WL0591SS	38 21 6	119 19 13	10.0	2.00	3.00	.70	1,000	N	30	1,000	2.0
WL0592SS	38 20 32	119 17 51	2.0	1.00	1.50	.50	1,000	N	50	1,000	2.0
WL0595SS	38 19 17	119 15 2	3.0	.50	.70	.50	1,000	N	30	700	3.0
WL0596SS	38 19 50	119 14 9	5.0	1.00	1.00	1.00	1,000	N	50	1,000	3.0
WL0597SS	38 20 34	119 13 32	2.0	.50	2.00	.50	500	N	70	1,000	5.0
WL0627SS	38 22 17	119 12 21	3.0	1.00	1.00	.70	1,000	N	20	700	1.0
WL0628SS	38 24 16	119 10 41	3.0	1.00	1.50	.70	1,000	N	30	700	1.5
WL0629SS	38 24 35	119 12 6	2.0	.50	1.00	.50	700	N	20	700	2.0
WL0630SS	38 25 49	119 13 30	1.0	.30	.50	.30	700	.5	10	300	5.0
WL0631SS	38 26 0	119 14 29	2.0	.30	.20	.50	500	1.0	<10	500	1.5
WL0632SS	38 27 3	119 14 34	1.5	.30	.07	.50	700	30.0	10	500	5.0
WL0633SS	38 27 28	119 14 19	1.5	.20	.10	.30	5,000	3.0	10	700	5.0
WL0634SS	38 28 3	119 14 20	1.5	.20	.20	.15	>5,000	N	50	500	7.0

Table 3.--Data for stream-sediment samples, Sweetwater Roadless Area, California and Nevada--continued

Sample	Co-ppm s	Cr-ppm s	Cu-ppm s	La-ppm s	Mo-ppm s	Nb-ppm s	Ni-ppm s	Pb-ppm s	Sc-ppm s	Sn-ppm s	Sr-ppm s
WL0589SS	5	50	10	30	N	<20	<5	30	10	N	500
WL0591SS	20	100	30	50	N	N	50	20	15	N	500
WL0592SS	10	50	15	50	N	N	15	50	10	N	700
WL0595SS	7	50	15	50	N	<20	7	70	10	N	500
WL0596SS	15	50	30	50	N	<20	30	20	15	N	500
WL0597SS	7	30	10	50	<5	<20	5	30	10	N	500
WL0627SS	10	50	15	50	N	N	30	30	15	N	500
WL0628SS	20	50	20	50	N	N	20	30	10	N	700
WL0629SS	10	50	7	50	5	<20	10	20	10	N	700
WL0630SS	5	15	20	50	50	<20	5	20	7	N	200
WL0631SS	10	20	15	30	10	N	5	30	7	N	300
WL0632SS	5	10	30	30	30	<20	N	100	7	N	200
WL0633SS	10	15	15	50	10	<20	5	50	5	N	300
WL0634SS	100	10	10	50	7	<20	5	30	5	15	200

Table 3.--Data for stream-sediment samples, Sweetwater Roadless Area, California and Nevada--continued

Sample	V-ppm s	Y-ppm s	Zr-ppm s	Th-ppm s	Zn-ppm aa	Cd-ppm aa	Bi-ppm aa	Sb-ppm aa	Au-ppm aa	As-ppm cm
WL0589SS	150	20	700	N	45	.05	N	2	--	N
WL0591SS	500	30	500	N	55	.05	N	4	--	N
WL0592SS	150	20	150	N	40	<.05	N	2	--	N
WL0595SS	150	30	500	<200	50	.10	N	2	--	N
WL0596SS	200	30	700	<200	50	.05	N	2	--	N
WL0597SS	100	30	300	N	40	<.05	N	2	--	N
WL0627SS	200	30	200	N	40	.15	N	2	--	N
WL0628SS	300	20	150	N	60	.20	N	2	--	N
WL0629SS	150	20	200	N	35	.15	N	3	--	N
WL0630SS	100	20	200	N	40	.25	.5	2	.003	<10
WL0631SS	150	20	200	N	60	.20	.5	4	.016	20
WL0632SS	100	15	150	N	120	.65	<.5	5	.027	20
WL0633SS	150	20	200	N	50	.30	.5	2	1.000	10
WL0634SS	70	50	150	N	110	.65	<.5	2	--	60

Table 4.--Data for concentrate samples, Sweetwater Roadless Area, California and Nevada

Sample	Latitude	Longitude	Fe-pct. s	Mg-pct. s	Ca-pct. s	Ti-pct. s	Mn-ppm s	Ag-ppm s	As-ppm s	Au-ppm s	B-ppm s	Ba-ppm s
SW001KN	38 22 30	119 20 54	.7	1.50	5.00	>2.0	1,000	N	N	N	20	200
SW002KN	38 22 54	119 20 31	.5	.70	5.00	>2.0	700	N	N	N	100	100
SW003KN	38 22 57	119 20 42	.5	1.00	10.00	>2.0	1,500	N	N	N	50	100
SW004KN	38 20 21	119 17 29	1.0	2.00	10.00	2.0	1,500	N	N	N	50	200
SW005KN	38 24 28	119 23 0	2.0	3.00	10.00	1.0	3,000	N	N	N	<20	500
SW006KN	38 25 49	119 20 59	.7	1.00	5.00	>2.0	1,000	N	N	N	<20	200
SW007KN	38 25 25	119 22 55	1.5	2.00	7.00	2.0	1,500	N	N	N	N	100
SW008KN	38 18 15	119 15 34	2.0	2.00	7.00	1.5	2,000	N	N	N	700	500
SW009KN	38 32 44	119 17 9	2.0	3.00	15.00	>2.0	1,500	N	N	N	20	100
SW010KN	38 17 20	119 16 32	3.0	5.00	15.00	.7	1,000	N	N	N	N	200
SW011KN	38 34 47	119 18 14	1.5	.50	15.00	>2.0	1,000	N	N	N	50	200
SW012KN	38 34 13	119 19 39	2.0	1.00	10.00	2.0	1,500	N	N	N	200	150
SW013KN	38 33 38	119 21 17	.7	.10	15.00	>2.0	1,000	N	N	N	30	100
SW014KN	38 33 30	119 21 10	1.0	.20	7.00	>2.0	1,000	N	N	N	100	200
SW017KN	38 28 31	119 15 59	3.0	3.00	20.00	.5	1,500	N	N	N	150	200
SW018KN	38 28 20	119 15 48	7.0	1.50	10.00	2.0	1,000	7.0	N	N	100	5,000
SW019KN	38 24 17	119 15 24	2.0	3.00	10.00	>2.0	700	N	N	N	N	50
SW020KN	38 24 19	119 15 9	1.5	.30	5.00	>2.0	500	1.5	N	N	<20	500
SW022KN	38 24 27	119 13 40	2.0	3.00	10.00	>2.0	700	N	N	N	<20	1,000
SW023KN	38 24 37	119 13 40	2.0	.50	5.00	>2.0	700	150.0	N	200	20	>10,000
SW024KN	38 31 1	119 20 26	3.0	.50	15.00	>2.0	1,500	N	N	N	50	500
SW025KN	38 30 59	119 20 15	3.0	1.00	20.00	>2.0	2,000	N	N	N	50	3,000
SW033KN	38 27 20	119 19 48	10.0	.10	.70	.5	1,500	700.0	N	>1,000	<20	>10,000
SW034KN	38 31 48	119 19 37	1.0	1.00	10.00	>2.0	1,000	N	N	N	50	100
SW035KN	38 32 13	119 19 32	1.0	3.00	15.00	2.0	1,500	N	N	N	30	150
SW036KN	38 27 18	119 17 5	20.0	.10	.50	2.0	500	10.0	N	N	<20	>10,000
SW037KN	38 28 8	119 16 15	2.0	1.50	10.00	.5	1,000	N	N	N	150	100
SW038KN	38 22 7	119 12 43	5.0	7.00	20.00	>2.0	2,000	N	N	N	<20	3,000
SW039KN	38 23 33	119 12 12	5.0	7.00	15.00	1.0	1,000	N	N	N	<20	2,000
SW040KN	38 22 14	119 14 47	1.5	2.00	10.00	>2.0	1,000	N	N	N	N	100
WL0051KN	38 22 14	119 20 48	2.0	3.00	7.00	>2.0	2,000	N	N	N	100	700
WL0493KN	38 27 2	119 26 20	3.0	5.00	10.00	1.0	2,000	N	N	N	20	200
WL0494KN	38 27 8	119 26 15	1.5	3.00	10.00	2.0	1,500	N	N	N	700	1,500
WL0537KN	38 21 30	119 24 58	.7	.10	3.00	>2.0	1,000	N	N	N	200	150
WL0547KN	38 35 0	119 19 31	1.0	.70	5.00	>2.0	1,000	N	N	N	500	200
WL0548KN	38 32 54	119 19 14	.7	.70	5.00	>2.0	1,500	N	N	N	50	3,000
WL0549KN	38 31 55	119 15 29	.7	1.50	5.00	>2.0	1,500	N	N	N	<20	150
WL0550KN	38 31 0	119 15 51	.5	.05	5.00	>2.0	1,000	N	N	N	<20	150
WL0551KN	38 30 6	119 15 57	.5	.50	5.00	>2.0	1,500	N	N	N	N	<50
WL0555KN	38 28 51	119 14 58	3.0	1.00	2.00	>2.0	700	N	N	N	100	7,000
WL0584KN	38 28 41	119 20 43	1.5	.50	5.00	1.5	1,000	N	N	N	100	>10,000
WL0585KN	38 28 33	119 20 56	1.5	1.00	7.00	2.0	1,500	N	N	N	150	700
WL0586KN	38 26 11	119 21 47	1.5	5.00	5.00	>2.0	1,500	N	N	N	N	300
WL0587KN	38 25 14	119 24 42	1.0	3.00	5.00	1.5	1,000	N	N	N	50	500
WL0589KN	38 25 9	119 24 52	.5	.50	3.00	2.0	700	N	N	N	100	200

Table 4.--Data for concentrate samples, Sweetwater Roadless Area, California and Nevada

Sample	Be-ppm s	Bi-ppm s	Cd-ppm s	Co-ppm s	Cr-ppm s	Cu-ppm s	La-ppm s	Mo-ppm s	Nb-ppm s	Ni-ppm s	Pb-ppm s
SW001KN	N	N	N	20	100	<10	1,000	15	100	50	20
SW002KN	N	150	N	15	100	<10	2,000	20	100	<10	500
SW003KN	N	N	N	15	100	<10	1,500	15	150	N	<20
SW004KN	N	N	N	20	150	10	1,000	10	70	50	20
SW005KN	N	N	N	15	200	<10	150	N	<50	50	N
SW006KN	N	N	N	20	150	10	1,000	10	70	20	200
SW007KN	N	N	N	20	700	10	700	30	50	100	20
SW008KN	N	N	N	15	150	100	1,500	10	50	50	20
SW009KN	<2	N	N	30	300	<10	700	15	200	30	30
SW010KN	N	N	N	50	700	10	200	10	<50	150	20
SW011KN	<2	N	N	10	100	10	500	15	150	N	20
SW012KN	<2	N	N	15	150	15	500	20	150	N	30
SW013KN	<2	N	N	10	20	<10	700	10	100	N	20
SW014KN	<2	N	N	<10	30	10	500	N	100	<10	30
SW017KN	<2	N	N	N	50	15	150	10	<50	N	30
SW018KN	5	500	N	100	20	1,000	700	100	100	20	100
SW019KN	<2	N	N	30	300	10	700	<10	300	100	20
SW020KN	2	700	N	50	70	50	1,000	70	200	N	150
SW022KN	2	200	N	50	300	15	1,000	50	100	70	50
SW023KN	5	N	N	20	100	300	1,000	20	100	<10	300
SW024KN	2	N	N	10	70	10	500	10	100	N	20
SW025KN	<2	N	N	10	150	<10	700	20	100	<10	30
SW033KN	2	N	N	50	20	50	200	20	<50	30	150
SW034KN	N	N	N	10	150	<10	700	20	150	N	N
SW035KN	<2	N	N	20	500	10	300	<10	100	50	20
SW036KN	3	300	N	200	<20	200	1,000	70	70	100	200
SW037KN	<2	N	N	15	30	15	70	N	N	20	30
SW038KN	<2	N	N	30	300	10	300	<10	100	100	30
SW039KN	<2	N	N	50	500	20	300	10	N	150	20
SW040KN	<2	N	N	20	200	<10	700	10	200	20	20
WL0051KN	3	N	N	10	70	<10	1,000	<10	300	N	70
WL0493KN	2	N	N	15	500	15	700	15	50	50	30
WL0494KN	<2	300	N	20	300	15	700	10	70	50	70
WL0537KN	N	N	N	10	50	N	500	15	150	<10	30
WL0547KN	N	N	N	10	100	<10	500	10	70	<10	30
WL0548KN	<2	N	N	<10	150	10	500	N	<50	N	50
WL0549KN	N	N	N	15	150	<10	500	10	100	N	50
WL0550KN	N	N	N	10	<20	N	500	10	150	<10	100
WL0551KN	N	N	N	10	70	<10	500	20	50	<10	30
WL0555KN	N	200	N	50	<20	100	500	100	150	N	100
WL0584KN	2	N	N	10	70	30	200	10	50	N	100
WL0585KN	3	N	N	<10	100	<10	300	N	<50	N	20
WL0586KN	N	N	N	10	300	15	700	N	100	N	200
WL0587KN	5	N	N	10	100	<10	200	N	50	N	N
WL0588KN	N	N	N	<10	100	150	500	N	70	<10	50

Table 4.--Data for concentrate samples, Sweetwater Roadless Area, California and Nevada

Sample	Sb-ppm s	Sc-ppm s	Sn-ppm s	Sr-ppm s	V-ppm s	W-ppm s	Y-ppm s	Zn-ppm s	Zr-ppm s	Th-ppm s
SW001KN	N	30	30	500	300	<100	1,000	N	>2,000	2,000
SW002KN	N	50	100	N	700	100	1,000	N	>2,000	3,000
SW003KN	N	50	70	200	200	<100	1,500	N	>2,000	2,000
SW004KN	N	70	30	500	300	N	500	N	>2,000	1,500
SW005KN	N	70	N	700	200	<100	150	N	1,000	<500
SW006KN	N	50	70	200	700	<100	1,500	N	>2,000	2,000
SW007KN	N	50	<20	<200	200	500	300	N	>2,000	2,000
SW008KN	N	50	70	700	300	<100	700	N	>2,000	1,500
SW009KN	N	70	30	200	300	<100	300	N	>2,000	<500
SW010KN	N	100	N	300	300	N	200	N	>2,000	1,000
SW011KN	N	20	<20	200	200	N	300	N	>2,000	500
SW012KN	N	30	20	300	300	N	300	N	2,000	<500
SW013KN	N	50	30	200	300	N	500	N	>2,000	500
SW014KN	N	20	20	500	200	100	300	N	>2,000	<500
SW017KN	N	20	N	1,000	200	N	100	N	500	N
SW018KN	N	20	N	500	200	700	150	N	2,000	<500
SW019KN	N	70	50	200	300	200	500	N	1,500	700
SW020KN	N	100	100	<200	300	500	1,000	N	>2,000	5,000
SW022KN	N	100	50	200	200	150	500	N	>2,000	5,000
SW023KN	N	70	300	700	200	100	500	N	>2,000	1,000
SW024KN	N	20	<20	200	300	N	200	N	>2,000	500
SW025KN	N	50	20	200	300	N	500	N	>2,000	<500
SW033KN	N	<10	N	3,000	70	N	50	N	>2,000	N
SW034KN	N	20	<20	N	200	N	500	N	2,000	500
SW035KN	N	70	<20	200	200	N	200	N	>2,000	500
SW036KN	N	30	N	300	100	300	200	N	>2,000	<500
SW037KN	N	20	N	700	200	N	50	N	500	<500
SW038KN	N	100	<20	500	200	<100	200	N	>2,000	<500
SW039KN	N	100	N	500	300	N	100	N	700	<500
SW040KN	N	70	50	<200	500	<100	500	N	>2,000	700
WL0051KN	N	70	70	<200	1,000	200	1,000	N	>2,000	5,000
WL0493KN	N	70	70	300	300	<100	150	N	1,000	500
WL0494KN	N	50	20	700	300	150	200	N	>2,000	1,000
WL0537KN	N	20	30	300	300	N	300	N	2,000	500
WL0547KN	N	50	70	500	500	N	300	N	2,000	<500
WL0548KN	N	50	50	200	300	N	200	N	>2,000	500
WL0549KN	N	50	100	200	500	N	500	N	>2,000	500
WL0550KN	N	20	70	N	300	N	500	N	2,000	700
WL0551KN	N	30	70	<200	500	N	500	N	>2,000	1,000
WL0555KN	N	70	N	300	200	500	200	N	>2,000	<500
WL0584KN	N	30	N	700	200	<100	100	N	>2,000	N
WL0585KN	N	30	<20	300	500	N	200	N	2,000	N
WL0586KN	N	70	100	300	1,000	N	700	N	>2,000	500
WL0587KN	N	20	N	300	150	200	150	N	2,000	500
WL0588KN	N	30	50	500	200	N	300	N	>2,000	500

Table 4.--Data for concentrate samples, Sweetwater Roadless Area, California and Nevada--continued

Sample	Latitude	Longitude	Fe-pct. s	Mg-pct. s	Ca-pct. s	Ti-pct. s	Mn-ppm s	Ag-ppm s	As-ppm s	Au-ppm s	B-ppm s	Ba-ppm s
WL0589KN	38 23 2	119 25 33	.7	1.50	7.00	>2.0	1,000	N	N	N	100	200
WL0591KN	38 21 6	119 19 13	.2	.05	2.00	1.5	200	N	N	N	N	1,500
WL0592KN	38 20 32	119 17 51	1.5	5.00	5.00	2.0	1,500	N	N	N	200	200
WL0595KN	38 19 17	119 15 2	1.0	3.00	5.00	>2.0	1,000	N	<500	N	20	500
WL0596KN	38 19 50	119 14 9	.2	.10	1.00	1.0	200	N	N	N	N	300
WL0597KN	38 20 34	119 13 32	1.0	1.50	3.00	>2.0	700	N	N	N	<20	700
WL0627KN	38 22 17	119 12 21	.7	2.00	5.00	>2.0	1,000	N	N	N	50	2,000
WL0628KN	38 24 16	119 10 41	5.0	5.00	10.00	2.0	1,500	30.0	N	N	N	>10,000
WL0629KN	38 24 35	119 12 6	1.0	3.00	5.00	>2.0	1,000	N	N	N	50	2,000
WL0630KN	38 25 49	119 13 30	1.0	.20	3.00	>2.0	1,500	N	700	N	N	300
WL0631KN	38 26 0	119 14 29	10.0	.20	5.00	>2.0	1,000	150.0	N	N	<20	10,000
WL0632KN	38 27 3	119 14 34	7.0	.20	2.00	>2.0	1,000	10,000.0	N	N	<20	10,000
WL0633KN	38 27 28	119 14 19	7.0	.50	.15	>2.0	1,500	700.0	N	200	20	700
WL0634KN	38 28 3	119 14 20	15.0	.50	.70	>2.0	1,000	N	N	N	<20	700

Table 4.--Data for concentrate samples, Sweetwater Roadless Area, California and Nevada--continued

Sample	Be-ppm s	Bi-ppm s	Cd-ppm s	Co-ppm s	Cr-ppm s	Cu-ppm s	La-ppm s	Mo-ppm s	Nb-ppm s	Ni-ppm s	Pb-ppm s
WL0589KN	N	N	N	10	100	<10	500	<10	<50	N	50
WL0591KN	N	N	N	<10	<20	<10	200	N	<50	N	N
WL0592KN	N	N	N	20	1,000	10	300	<10	50	100	20
WL0595KN	2	N	N	30	200	15	700	N	100	70	150
WL0596KN	2	N	N	<10	30	20	200	10	<50	N	70
WL0597KN	<2	N	N	10	300	<10	500	N	150	20	150
WL0627KN	<2	N	N	15	200	10	500	10	100	20	50
WL0628KN	N	N	N	20	1,000	20	300	N	N	150	50
WL0629KN	<2	300	N	20	300	10	700	10	100	50	50
WL0630KN	<2	N	N	20	50	20	>2,000	20	500	<10	150
WL0631KN	5	N	N	30	50	200	500	50	100	30	500
WL0632KN	3	500	70	20	20	1,000	500	200	50	20	3,000
WL0633KN	5	100	N	10	20	70	1,500	50	70	<10	700
WL0634KN	3	N	N	15	50	50	500	20	70	<10	100

Table 4.--Data for concentrate samples, Sweetwater Roadless Area, California and Nevada--continued

Sample	Sb-ppm s	Sc-ppm s	Sn-ppm s	Sr-ppm s	V-ppm s	W-ppm s	Y-ppm s	Zn-ppm s	Zr-ppm s	Th-ppm s
WL0589KN	N	70	70	300	500	N	500	N	>2,000	1,000
WL0591KN	N	10	N	1,000	100	100	200	N	2,000	1,000
WL0592KN	N	100	50	500	500	N	300	N	2,000	500
WL0595KN	N	100	50	500	300	100	1,000	N	>2,000	5,000
WL0596KN	N	30	N	700	100	N	300	N	2,000	5,000
WL0597KN	N	100	50	500	150	150	300	N	>2,000	1,500
WL0627KN	N	70	70	300	300	<100	500	N	>2,000	1,500
WL0628KN	N	100	50	3,000	300	N	100	N	2,000	<500
WL0629KN	N	70	100	200	300	200	700	N	>2,000	5,000
WL0630KN	N	100	150	N	300	200	2,000	N	>2,000	>5,000
WL0631KN	N	30	50	700	300	100	200	N	>2,000	<500
WL0632KN	N	20	1,000	500	300	500	150	2,000	>2,000	500
WL0633KN	700	50	1,000	500	300	100	200	N	>2,000	500
WL0634KN	N	20	N	200	300	100	150	N	>2,000	<500

DESCRIPTION OF TABLES 5-7

Tables 5, 6, and 7 give summary statistics for the analyses of the samples of rock, minus-60-mesh (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.

Table 5.--Summary statistics for the analytical values determined for the 127 rock samples in table 2, Sweetwater Roadless Area, California and Nevada

[All concentrations are in parts per million except those for Fe, Mg, Ca, and Ti, which are in percent. "aa" following the element symbol indicates atomic absorption analysis; "cm" indicates colorimetric analysis; no element suffix indicates emission spectrographic analysis. "N" means not detected at the lower limit of determination shown in parentheses. Data for Au-aa based on only 78 samples]

Element	Range of values	Percentiles				
		50	75	90	95	98
% Fe	0.1 - 5	0.7	2	3	3	3
% Mg	<0.02 - 2	0.2	0.5	0.7	1	1.5
% Ca	<0.05 - 5	0.07	0.3	1.5	2	3
% Ti	0.02 - 0.7	0.15	0.3	0.5	0.5	0.7
Mn	<10 -2000	200	300	700	700	1500
Ag	N(0.5)- 300	0.5	2	10	50	100
B	N(10)- 100	10	15	20	50	70
Ba	N(20)-2000	300	700	1000	1500	2000
Be	N(1) - 70	2	3	5	5	7
Co	N(5) - 20	N(5)	<5	10	15	20
Cr	N(10)- 50	<10	10	20	30	50
Cu	N(5) - 50	7	10	20	20	30
La	N(20)- 200	50	50	70	100	100
Mo	N(5) - 500	5	15	50	100	200
Nb	N(20)- 20	N(20)	<20	20	20	20
Ni	N(5) - 30	5	5	10	15	20
Pb	<10 - 150	20	30	50	70	100
Sc	N(5) - 20	5	7	10	15	15
Sn	N(10)- 10	N(10)	N(10)	N(10)	N(10)	N(10)
Sr	N(100) -1000	150	200	700	700	1000
V	<10 - 300	50	70	150	150	200
W	N(50) - 50	N(50)	N(50)	N(50)	<50	50
Y	N(10) - 100	10	15	20	20	50
Zr	15 - 300	100	100	150	200	200
Th	N(100) -<100	N(100)	N(100)	N(100)	N(100)	N(100)
Zn-aa	N(5) - 150	10	20	45	65	65
Cd-aa	N(0.05)- 0.4	0.10	0.15	0.15	0.20	0.25
Bi-aa	N(0.5)- 2.5	<0.5	1	2	2	2.5
Sb-aa	N(1)- 35	2	3	5	10	10
Au-aa	N(0.002) - 0.35	0.005	0.020	0.050	0.063	0.065
As-cm	N(10) - 300	20	40	80	120	160

Table 6.--Summary statistics for the analytical values determined for the 59 minus-60-mesh (0.25-mm) stream-sediment samples in table 3, Sweetwater Roadless Area, California and Nevada

[All concentrations are in parts per million except those for Fe, Mg, Ca, and Ti, which are in percent. "aa" following the element symbol indicates atomic absorption anaysis; "cm" indicates colorimetric analysis; no element suffix indicates emission spectrography analysis. "N" means not detected at the lower limit of determination shown in parentheses. Dashes (--) indicate insufficient reported values not qualified with N, <, or > to derive meaningful information. Data for Au-aa based on only 9 samples]

Element	Range of values	Percentiles				
		50	75	90	95	98
% Fe	0.5- 15	3	5	7	10	10
% Mg	0.05- 2	0.7	1	1.5	2	2
% Ca	0.05 - 5	1	2	3	3	5
% Ti	0.1 - 1	0.5	0.7	1	1	1
Mn	300 ->5000	1000	1000	1500	3000	5000
Ag	N(0.5) - 30	N(0.5)	N(0.5)	0.5	1	3
B	N(10) - 70	15	30	50	70	70
Ba	100 - 2000	700	1000	1000	1500	1500
Be	<1 - 7	1.5	2	3	5	5
Co	N(5) - 100	10	15	20	20	20
Cr	10 - 500	50	50	70	100	150
Cu	5 - 50	20	30	30	30	50
La	20 - 100	50	70	70	100	100
Mo	N(5)- 50	<5	5	10	20	30
Nb	N(20)- 20	N(20)	<20	<20	<20	<20
Ni	N(5)- 100	10	15	30	50	70
Pb	15 - 100	30	50	50	70	70
Sc	5 - 20	10	10	15	15	20
Sn	N(10) - 15	N(10)	N(10)	N(10)	N(10)	N(10)
Sr	100 - 1000	500	700	700	1000	1000
V	50 - 500	150	200	300	500	500
Y	<10 - 50	20	30	30	50	50
Zr	70 - 1000	200	300	500	700	1000
Th	N(100) - <100	N(100)	N(100)	N(100)	<100	<100
Zn-aa	15 - 120	45	60	70	80	120
Cd-aa	N(0.05) - 0.65	0.10	0.20	0.30	0.35	0.65
Bi-aa	N(0.5)- 7	N(0.5)	0.5	0.5	2	5
Sb-aa	<1 - 5	2	2	3	5	5
Au-aa	0.003 - 1	--	--	--	--	--
As-cm	N(10)- 60	N(10)	N(10)	10	20	20

Table 7.--Summary statistics for the analyses of the 59 nonmagnetic heavy-mineral-concentrate samples in table 4, Sweetwater Roadless Area, California and Nevada

[All concentrations are in parts per million except those for Fe, Mg, Ca, and Ti, which are in percent. All analyses are by emission spectroscopy. "N" means not detected at the lower limit of determination shown in parentheses]

Element	Range of values	Percentiles				
		50	75	90	95	98
% Fe	0.2 - 20	1.5	3	7	10	15
% Mg	0.05- 7	1	3	5	5	7
% Ca	0.15- 20	5	10	15	20	20
% Ti	0.5 - >2	>2	>2	>2	>2	>2
Mn	200 - 3000	1000	1500	2000	2000	2000
Ag	N(1) - 10,000	N(1)	N(1)	30	700	700
As	N(500) - 700	N(500)	N(500)	N(500)	N(500)	700
Au	N(20) - >1000	N(20)	N(20)	N(20)	N(20)	200
B	N(20) - 700	20	100	200	500	700
Ba	<50 ->10,000	300	2000	10,000	>10,000	>10,000
Be	N(2) - 5	<2	2	3	5	5
Bi	N(20) - 700	N(20)	N(20)	300	500	500
Cd	N(50) - 70	N(50)	N(50)	N(50)	N(50)	N(50)
Co	N(10) - 200	15	20	50	50	100
Cr	<20 - 1000	100	300	500	700	1000
Cu	N(10)- 1000	10	20	150	300	700
La	70 - >2000	500	700	1000	1500	2000
Mo	N(10)- 200	10	20	50	100	100
Nb	N(50)- 500	100	100	200	300	300
Ni	N(10)- 150	<10	50	100	150	150
Pb	N(20)- 3000	30	100	200	500	700
Sb	N(200)- 700	N(200)	N(200)	N(200)	N(200)	N(200)
Sc	<10 - 100	50	70	100	100	100
Sn	N(20)- 1000	30	70	100	300	1000
Sr	N(200)- 3000	300	500	700	1000	2000
V	70 - 1000	300	300	500	700	1000
W	N(100)- 700	<100	100	300	500	500
Y	50 - 2000	300	500	1000	1500	1500
Zn	N(500)- 2000	N(500)	N(500)	N(500)	N(500)	N(500)
Zr	500 - >2000	>2000	>2000	>2000	>2000	>2000
Th	N(200)- >5000	500	1500	5000	5000	5000

DESCRIPTION OF FIGURES 1-3

Figures 1-3 are percent-frequency histograms for most of the elements analyzed in the samples of rock, stream-sediment, and nonmagnetic heavy-mineral concentrate, respectively. The X-axes show the concentration of each element in each sample type in either percent (%) or in parts per million (ppm). The Y axes show the percent of samples falling into each concentration category. The symbols "N", "<" and ">" are used in figures 1-3 in the same manner described in the section for tables 2-4.

The histograms for the rock samples (fig. 1) are all based on 127 samples, except for gold, which is based on 78 samples. The histograms for the stream-sediment samples (fig. 2) are all based on 59 samples, except for gold, which is based on only 9 samples. The histograms for the concentrate samples are based on 59 samples (fig. 3); Nb, Sn, and Th in the stream-sediment samples (fig. 2); and As, Au, Cd, Sb, and Zn in the concentrate samples (fig. 3) were not plotted because none of these elements had sufficient analytical variation to produce a meaningful distribution plot.

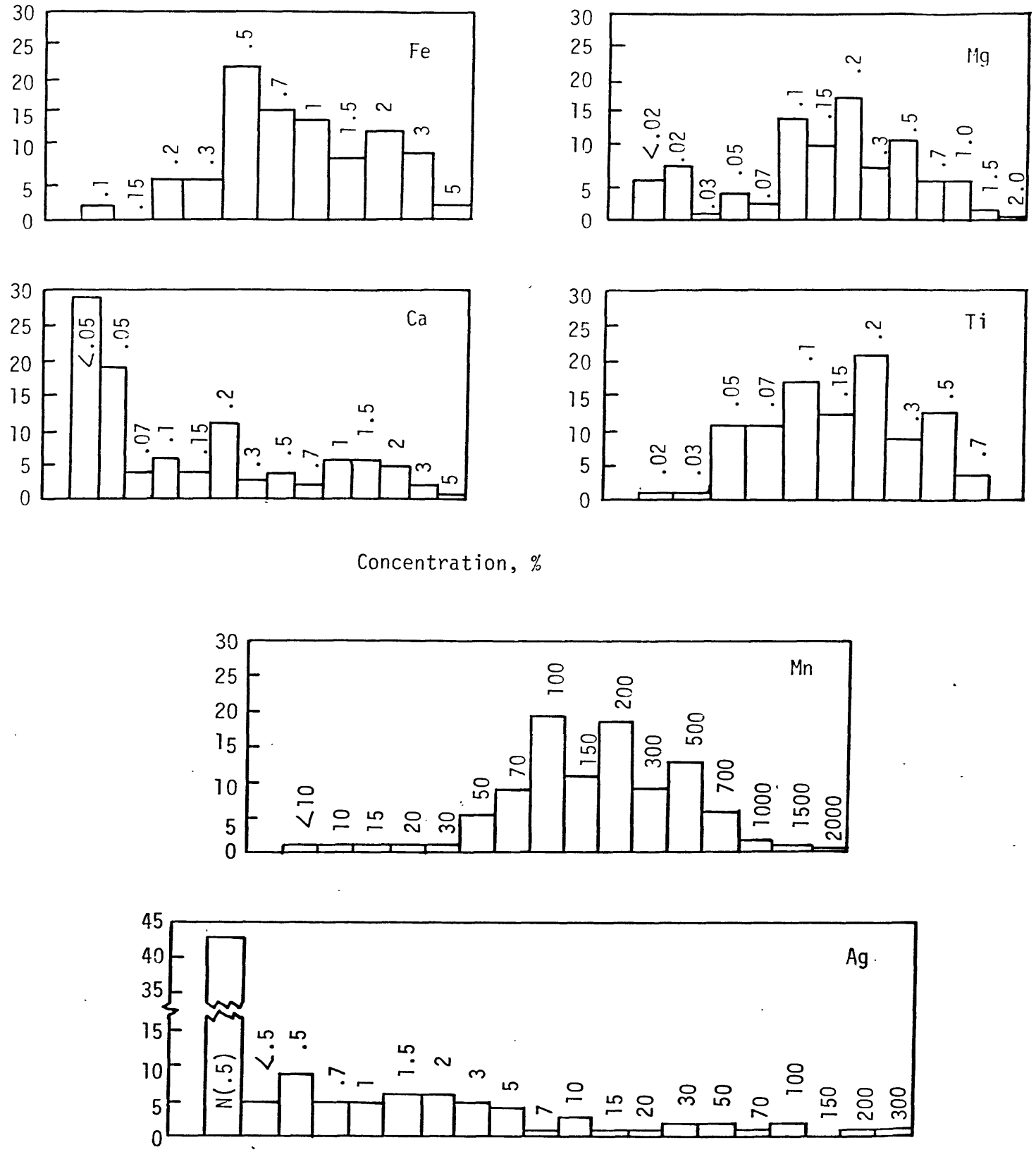

Figure 1.-- Percent-frequency histograms for elements determined in samples of rock, Sweetwater Roadless Area, California and Nevada.

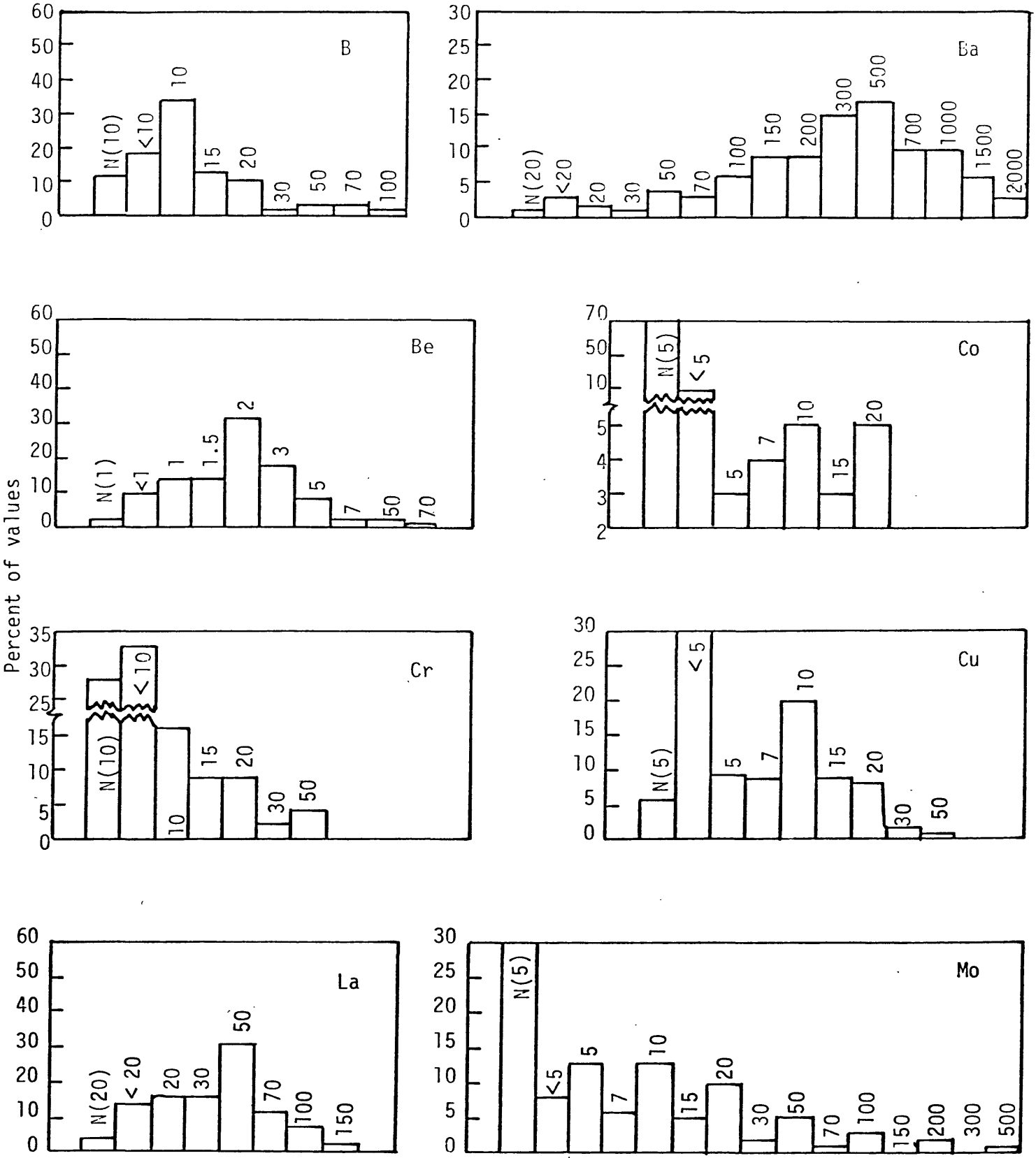

Figure 1.-- continued

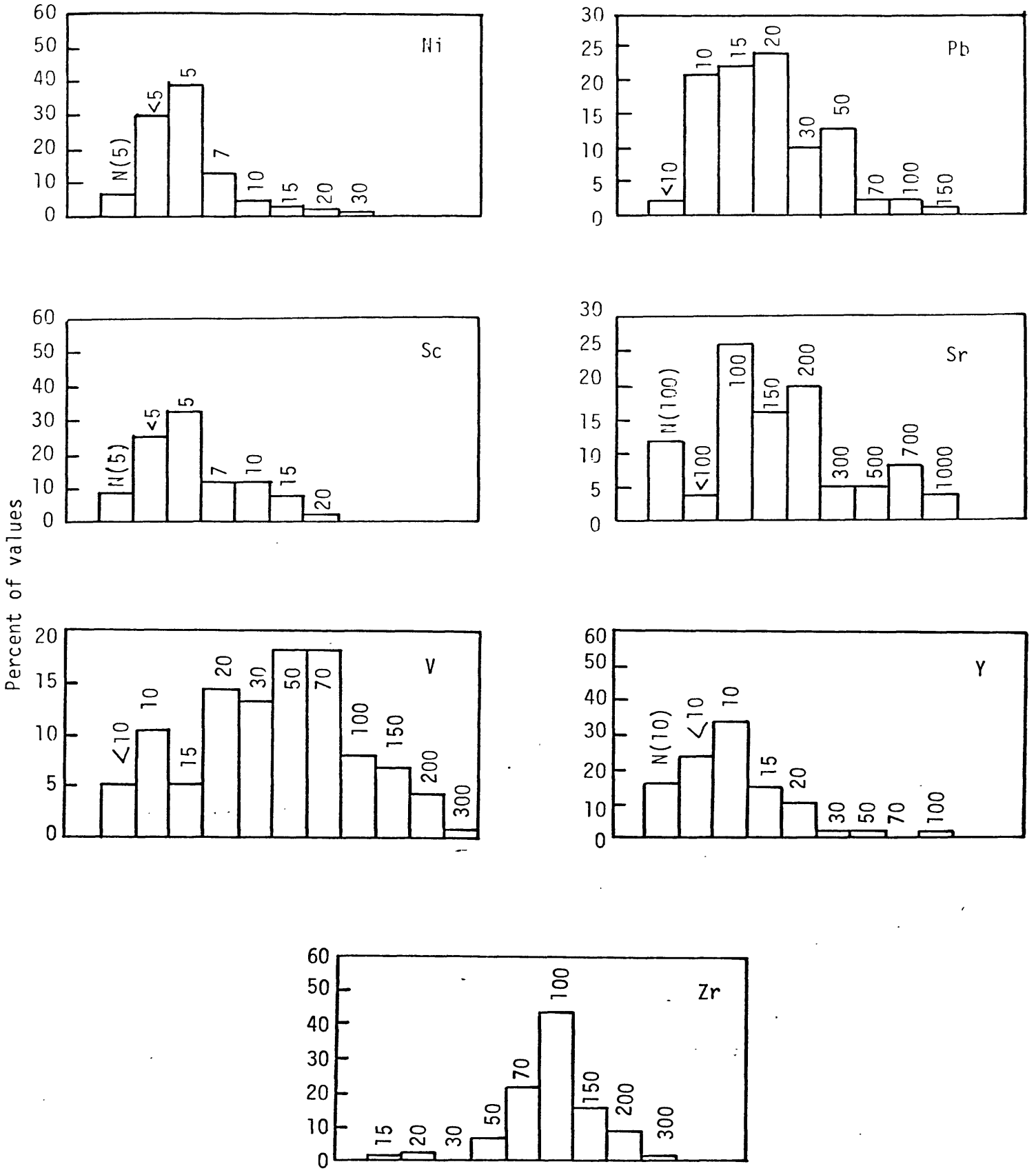

Figure 1.-- continued

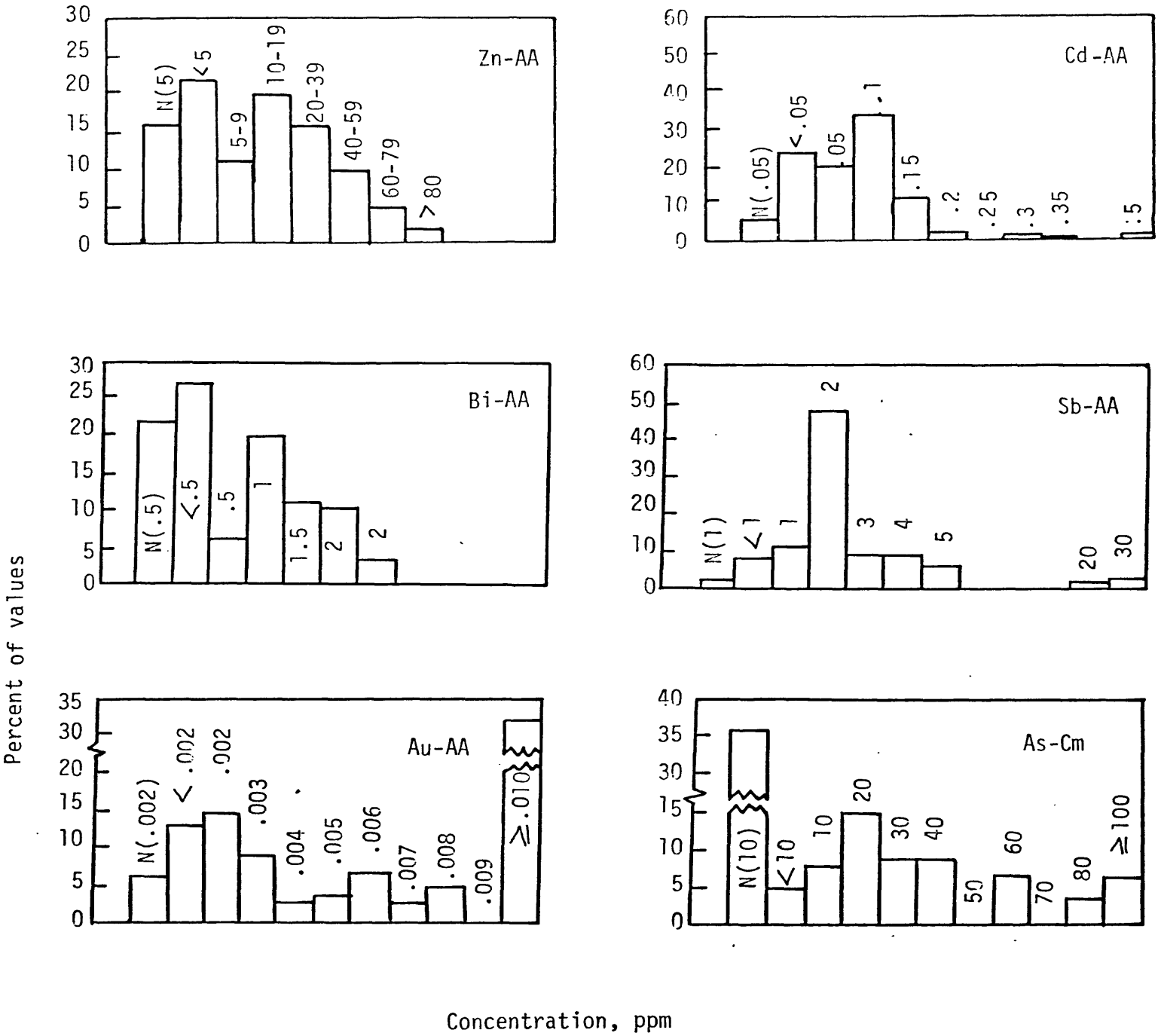

Figure 1.-- continued

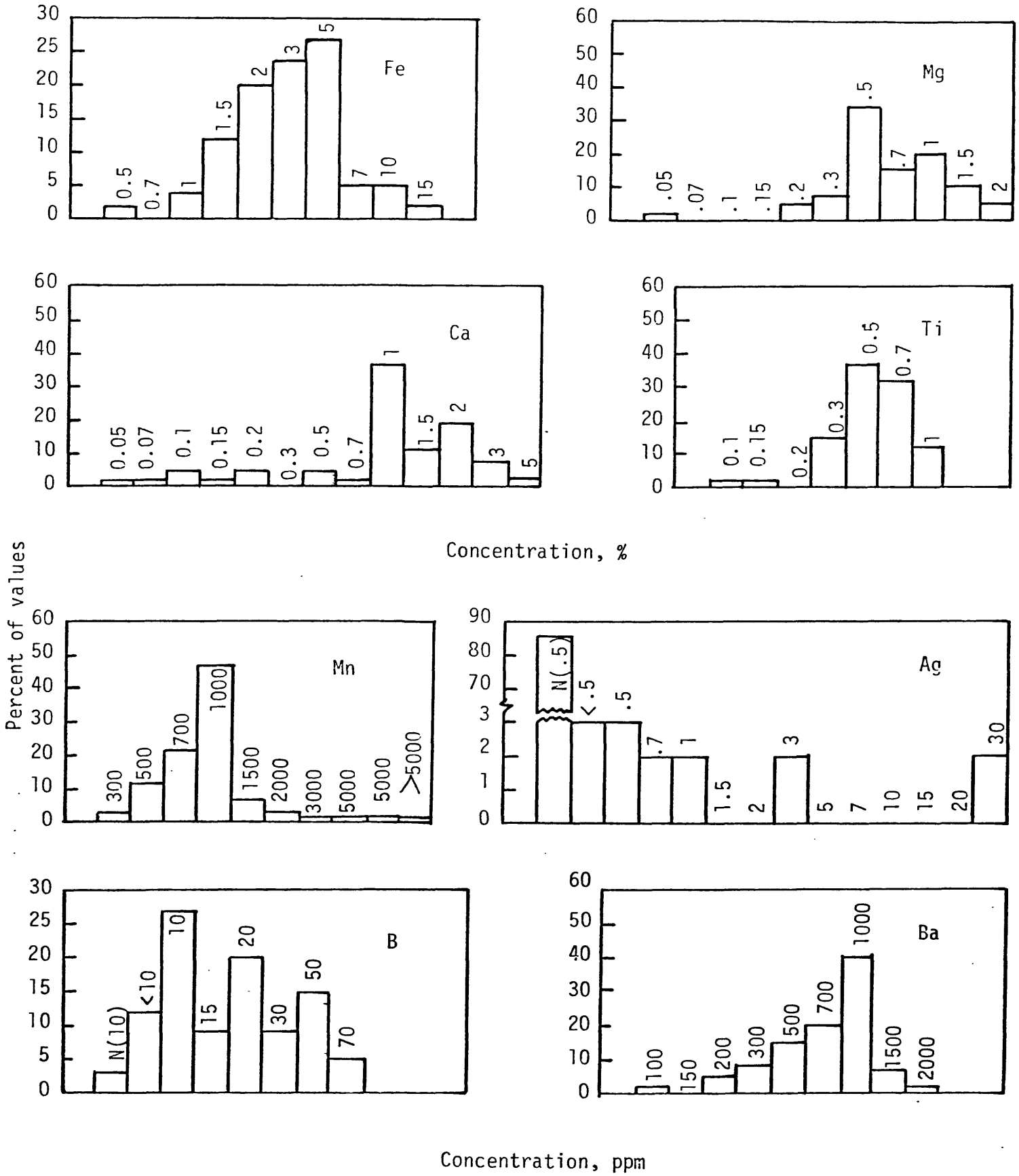

Figure 2.-- Percent frequency histograms for elements determined in samples of minus-60-mesh (0.25-mm) stream-sediment, Sweetwater Roadless Area, California and Nevada

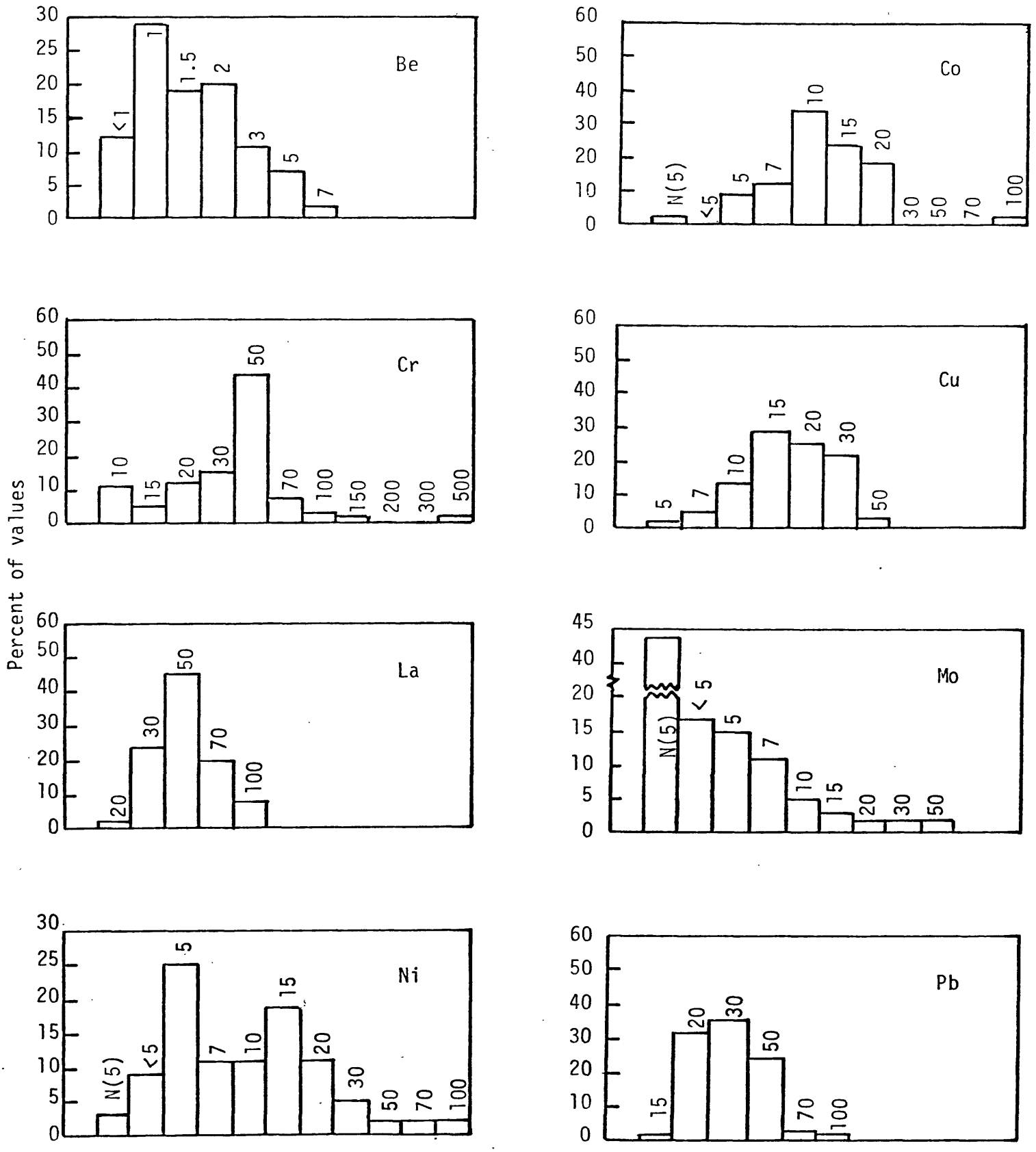

Figure 2.-- continued

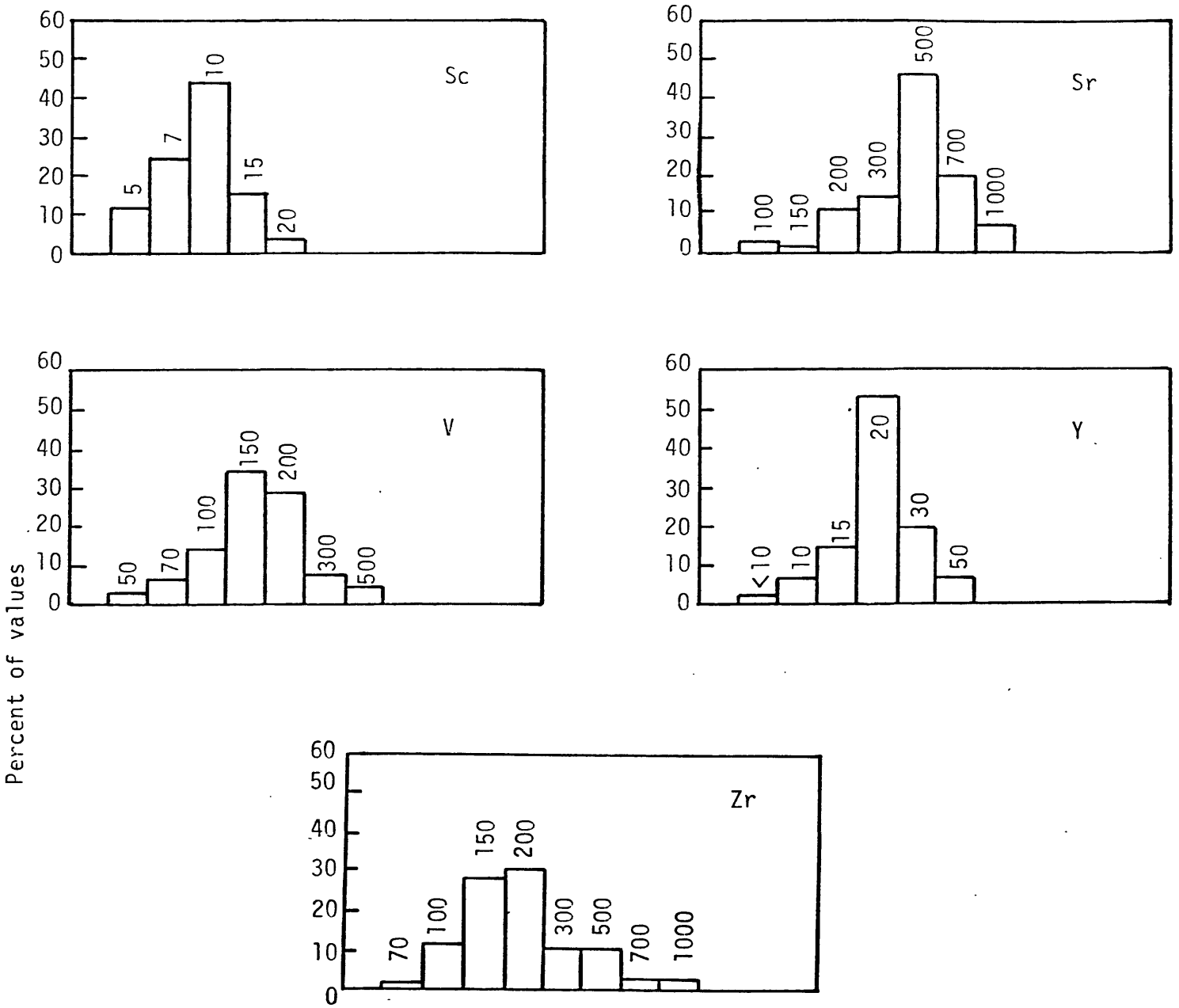

Figure 2.-- continued

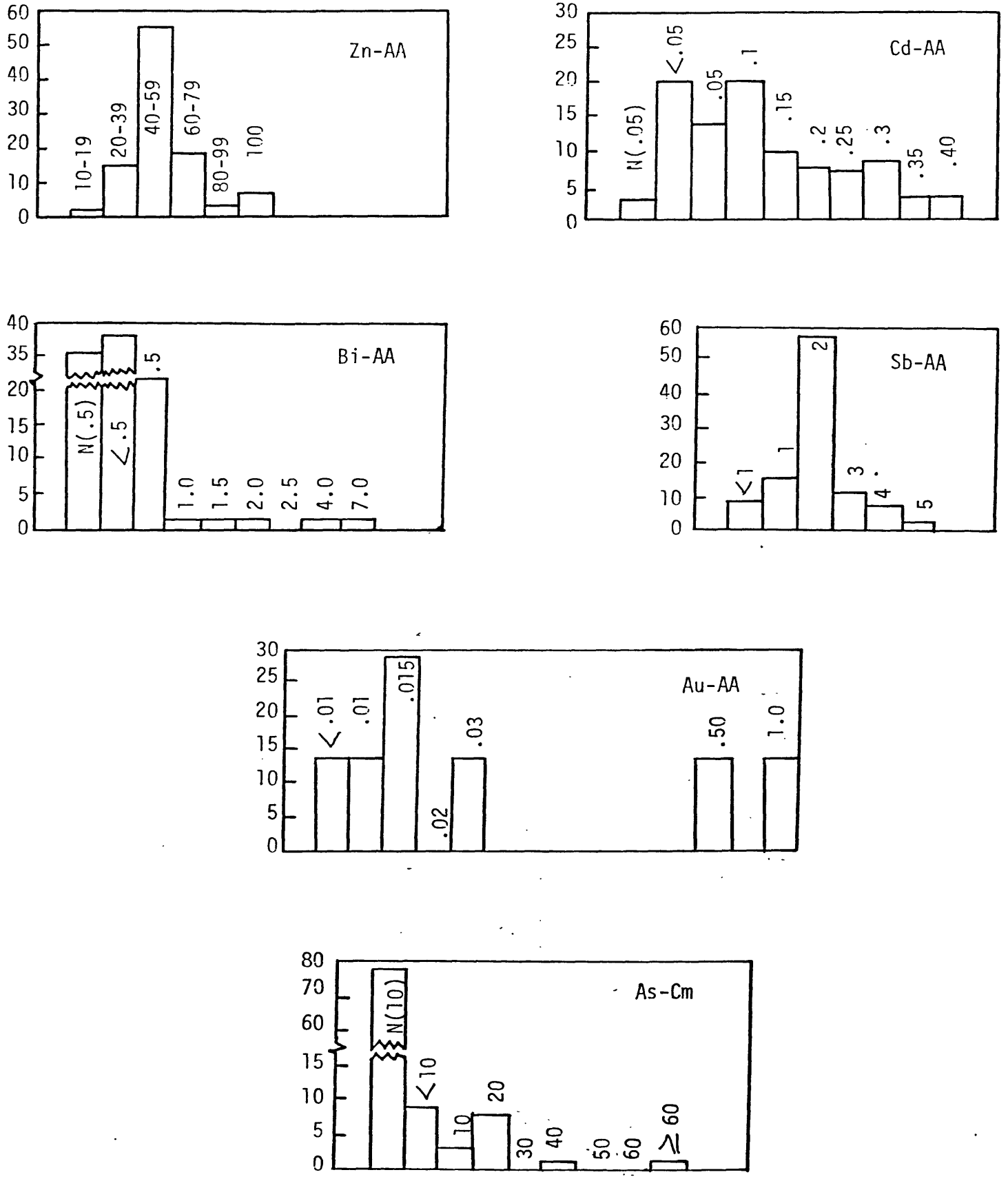

Figure 2.-- continued

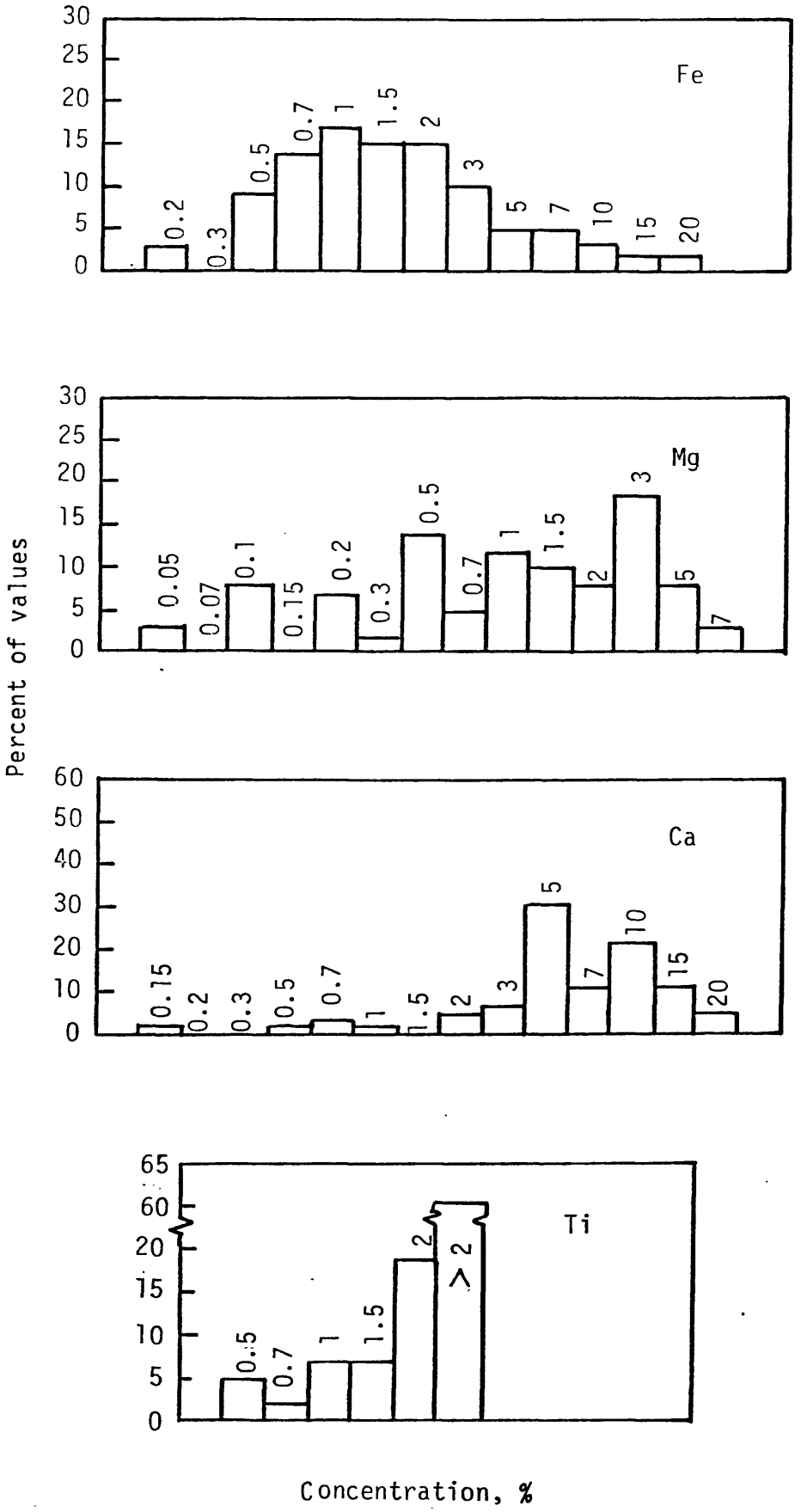

Figure 3.-- Percent-frequency histograms for elements determined in samples of nonmagnetic heavy-mineral concentrate, Sweetwater Roadless Area, California and Nevada

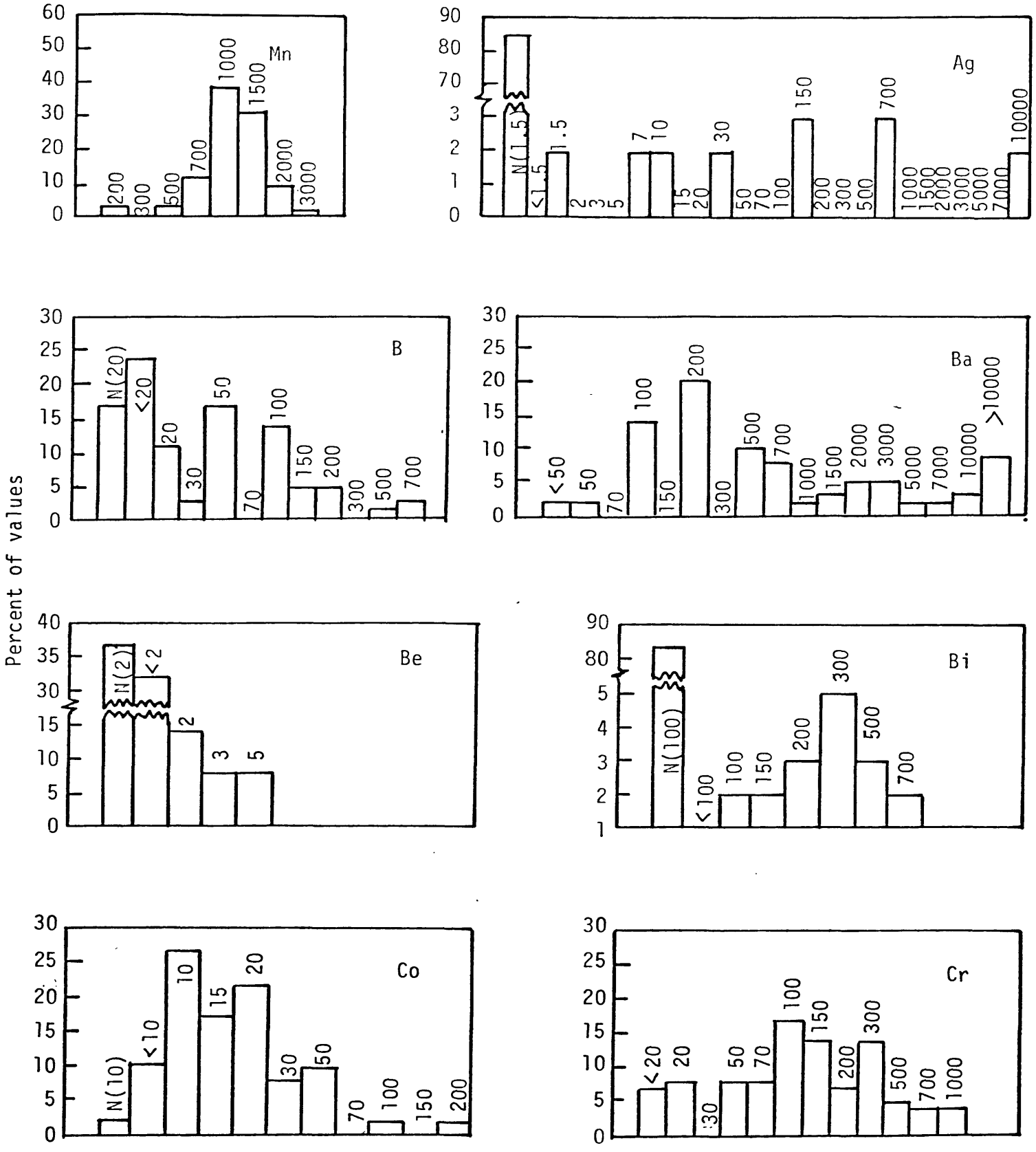

Figure 3.-- continued

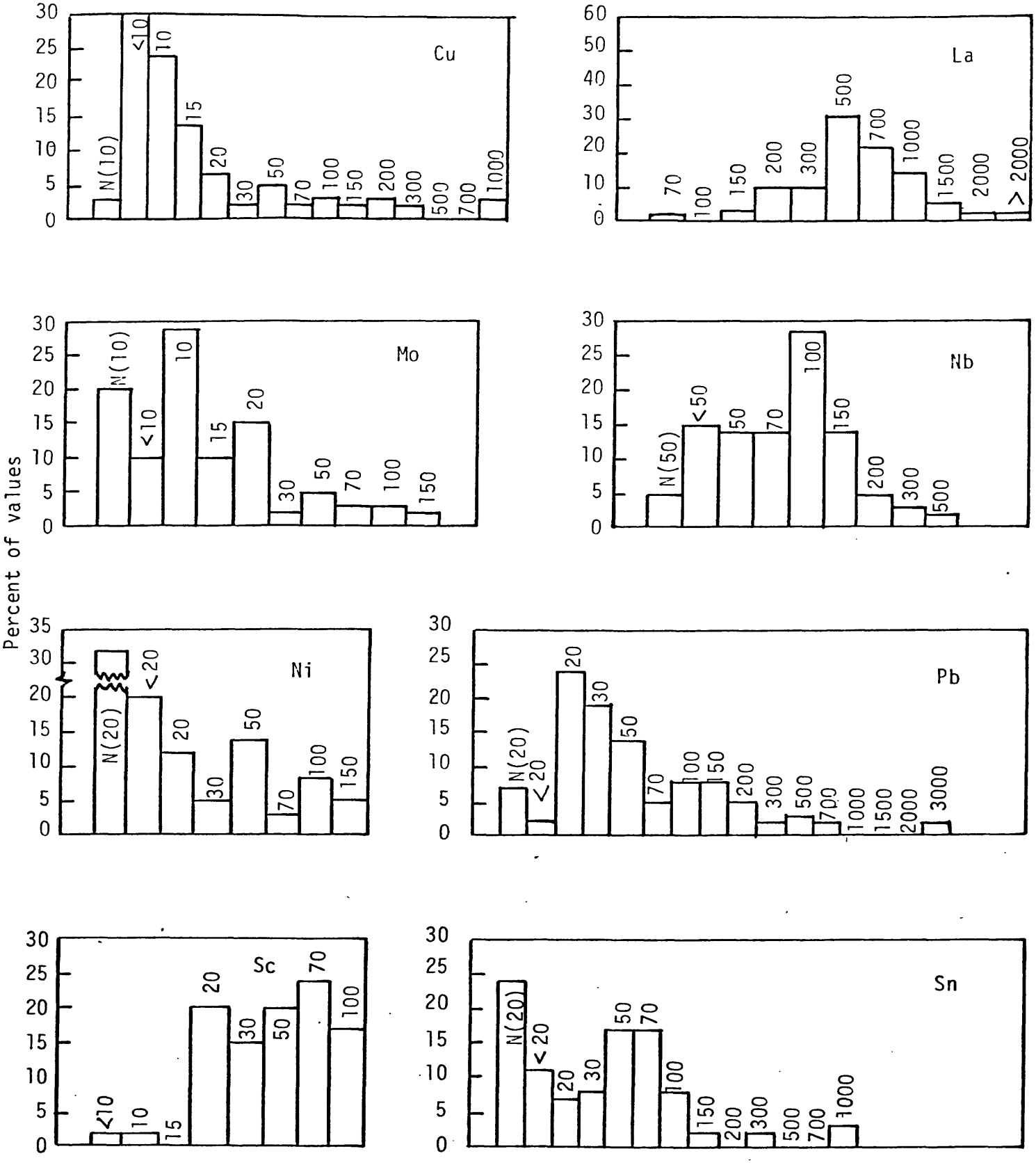

Figure 3.-- continued

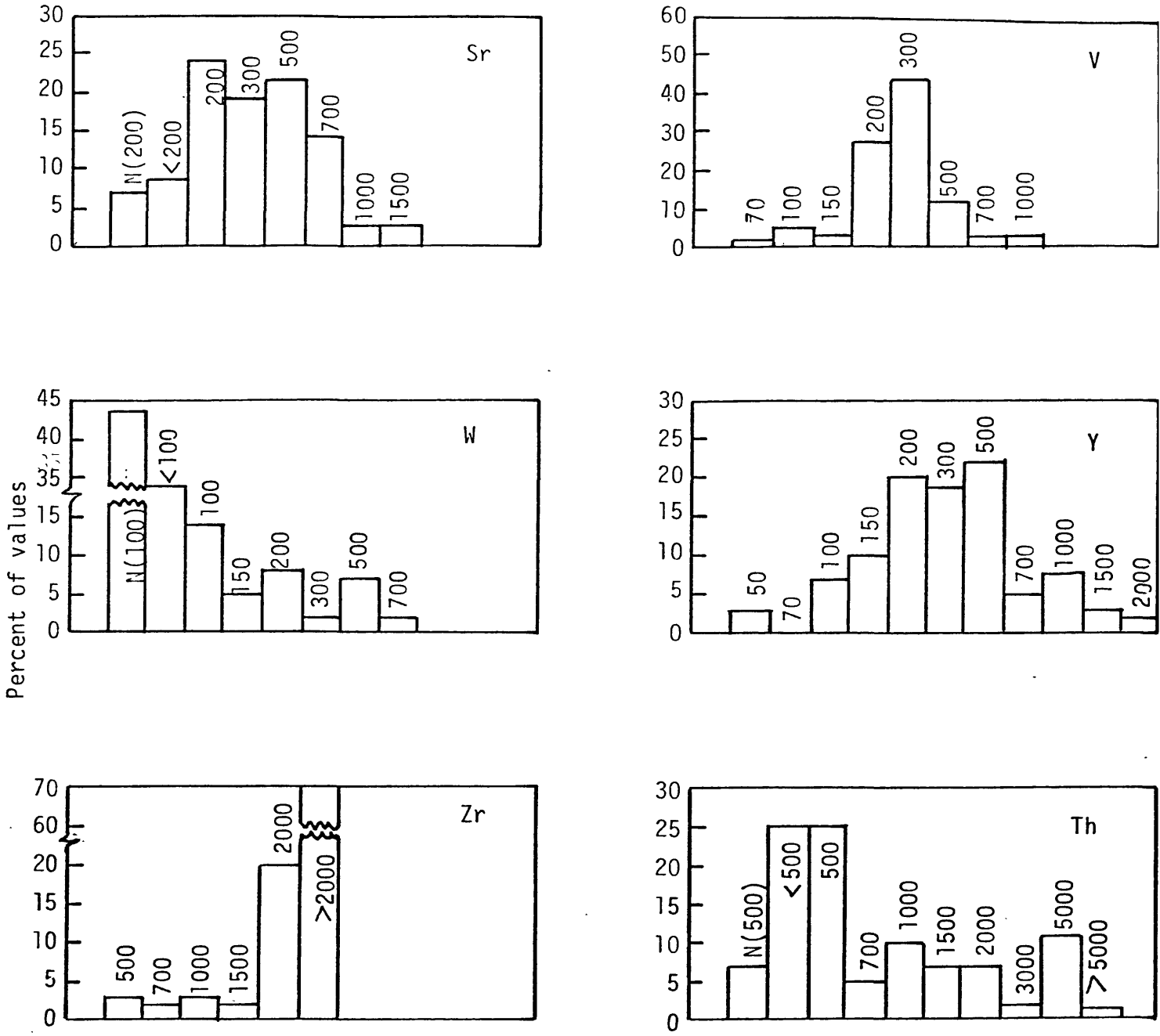

Figure 3.-- continued

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