UNITED STATES DEPARTMENT OF THE INTERIOR

GEOLOGICAL SURVEY

GEOCHEMICAL ANALYSES OF ROCK, STREAM-SEDIMENT, AND NONMAGNETIC HEAVY-MINERAL CONCENTRATE SAMPLES, LAUREL-McGEE AND WHEELER RIDGE ROADLESS AREAS, INYO AND MONO COUNTIES, CALIFORNIA

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Contents

Illustrations

Tables

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 Laurel-McGee and Wheeler Ridge Roadless Areas in the Inyo National Forest, Inyo and Mono Counties, California. Laurel-McGee (5045) and Wheeler Ridge (5040) Roadless Areas were classified as further planning areas during the Second Roadless Area Review and Evaluation (RARE II) by the U.S. Forest Service, January 1979.

INTRODUCTION

A geochemical sampling program was conducted in the Laurel-McGee and Wheeler Ridge Roadless Areas in the eastern Sierra Nevada, California, during the summer of 1980 in order to determine areas of anomalous mineral occurrences. This report presents data to be used in further work as part of a program of mineral resource evaluation. The two roadless areas are located in Inyo and Mono Counties, in eastern California (fig. 1). Locations of all sample sites are shown on plate 1. Information regarding analytical limits and reporting is given in tables 1 through 3. A complete listing of the analyses from samples of rock, stream sediment, and nonmagnetic heavy-mineral concentrate are given in tables 4, 5, and 6, respectively, statistical summaries are presented in tables 7, 8, and 9, and frequency tables and histograms are given in tables 10 through 12.

GEOLOGIC SETTING

The area shown on plate 1 is composed mainly of Mesozoic granitic rocks with subordinate amounts of Paleozoic metamorphic rocks and Cenozoic, chiefly Quaternary, sedimentary and volcanic rocks. The granitic rocks are part of the Sierra Nevada batholith. The metamorphic rocks are part of two large roof pendants engulfed by the underlying batholith. Volcanic rocks occur as small erosional remnants in the northern part of the map area. Weakly consolidated late Tertiary and Quaternary sedimentary deposits are generally present in the canyons along the east side of the Sierra Nevada. For a detailed geologic account of the region, see Rinehart and Ross (1956, 1957, 1964) and Bateman (1965).

SAMPLE COLLECTION AND PREPARATION

A rock sample, a stream-sediment sample, and a bulk stream-sediment sample used for panning were collected at most sample locations. When water was available, the bulk sample was pan concentrated at the site. At some sites, not all sample types could be collected, depending upon their availability. A total of 24 rock samples, 37 stream-sediment samples, and 39 concentrate samples were analyzed. Analytical geochemical data for each of these sample types are listed in tables 4 through 6, respectively. Samples were collected by M. A. Chaffee, D. A. Dellinger, M. F. Diggles, R. H. Hill, R. A. Howe, and E. H. McKee.

Locations and station numbers of all sample sites are shown on plate 1. Each sample locality was assigned a station number consisting of a two-letter

prefix denoting the U.S. Geological Survey 15-minute topographic quadrangle in which the sample was collected (CD, Casa Diablo; MM, Mount Morrison; MT, Mount Tom) followed by a three-digit number unique to that quadrangle. Samples are identified by the station number suffixed by a two-letter sample type designation (RK, rock samples; SS, stream-sediment samples; KN, nonmagnetic heavy-mineral concentrate samples). Latitude and longitude and Universal Transverse Mercator (UTM) eastings and northings for each sample locality are given in tables 4 through 6.

Rock samples

At stations near bedrock outcrops, a rock sample representative of the dominant lithology of the area was collected within 150 ft (45 m) of the sediment sampling site. Deeply weathered material was avoided, although a small number of samples were collected from outcrops that were conspicuously iron stained. In the laboratory, samples were crushed, split, and ground to minus 300 mesh (less than 0.05 mm) in a pulverizer with ceramic plates; a split of this material was saved for analysis.

Stream-sediment samples

Stream sediments were collected at first-order (unbranched) and second-order (below the junction of two first order) streams as shown on plate 1. Samples of the most organic-free sediment available were collected from active stream channels and are composites of material collected across the full width of the channel or, where necessary, along an active bar deposit. Poorly sorted coarse-sand to silt-size material was the most preferred sample material. After collection, the sediment was passed through an 8-mesh (2-mm) stainless-steel screen on site to remove pebbles and cobbles before further processing. Wet samples were air dried and sieved through a 60-mesh (0.25-mm) stainless-steel screen. In the laboratory, the minus 60-mesh fraction was pulverized to minus 300-mesh (less than 0.05-mm) and a split of this material was saved for analysis.

Nonmagnetic heavy-mineral concentrate samples

The bulk material for the nonmagnetic heavy-mineral concentrate samples was gathered in the same manner as the stream-sediment samples. Each bulk sample was passed through an 8-mesh (2-mm) stainless-steel screen to remove coarse material and then wet panned to remove organic and clay-size material and to concentrate the heavy minerals. The remaining sample was air dried and passed through an 18-mesh (1.0-mm) sieve. In the laboratory, the minus 18-mesh (less than 1.0-mm) fraction was separated into light and dense fractions by allowing the material to settle in liquid bromoform (specific gravity 2.86). The less dense (less than 2.86 sp. gr.) material was discarded. Highly magnetic minerals, primarily magnetite and ilmenite, were removed with a hand magnet and the remaining fraction separated into magnetic and nonmagnetic fractions using a Frantz Isodynamic Separator[1] at a setting of 0.6 amperes, with 15° forward- and 15° side-angle settings. The resulting

[1]Any use of trade names is for descriptive purposes only and does not imply endorsement by the USGS.

nonmagnetic sample was split into two equal fractions; one was ground in an agate mortar prior to analysis and the other saved for future mineralogical studies.

ANALYTICAL PROCEDURE

Emission Spectrography

Laboratory preparation and analysis was performed by the U.S. Geological Survey, Branch of Exploration Research. All three sample types were analyzed for 31 elements (table 1) using a six-step semiquantitative emission spectrographic method (Grimes and Marranzino, 1968). The technique used for the spectrographic analysis of the heavy-mineral concentrate samples differed from that used for rocks and stream sediments in order to limit interference caused by high iron, calcium, titanium, and zirconium concentrations. Only half as much sample is used. This reduced amount of sample is mixed with an equal weight of a mixture of graphite and silica. The spectral lines were recorded on film and compared against laboratory standards and the resulting values were then doubled. Doubled values that did not fall into one of the standard six-step reporting intervals (table 2) were reported as the next higher reporting value. This procedure raises the upper and the lower limits of detection (detection limits for each sample type are given in table 1).

In general, the precision of the spectrographic method is plus or minus one reporting value of that value given by the analyst approximately 83 percent of the time, and plus or minus two reporting values of that given 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, better precision can be expected. A reference standard was analyzed with each batch of field samples to monitor the quality of the analyses. Because the analysis of heavy-mineral concentrates by emission spectrography involves half of the normal sample amount, and because of rounding errors on some samples, the precision of these determinations is probably less than those for rock and stream-sediment samples, particularly for values near the limits of detection (Koch and others, 1980).

Atomic Absorption and Fluorometric Analysis

In addition to the standard 31-element spectrographic analysis, all rock and stream-sediment samples were analyzed for zinc by atomic-absorption spectrometry (Ward and others, 1969) and for gold by flameless atomic-absorption spectrometry (Meier, 1980). Rock and stream-sediment samples were analyzed for uranium by fluorometry (Centanni and others, 1956). Precision of any determination varies both with the technique and the concentration of the element analyzed. Precision 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 poorest for abundances near the lower limit of determination. For the three elements discussed here, the reported ranges of percent relative standard deviation, as determined by replicate analyses of a limited sample set, are as follows:

Element	Range of percent RSD	Reference
Au	0.0-22.8	Meier (1980)
U	5.0-20.0	R. M. O'Leary and A. L. Meier, (written commun., 1982)
Zn	3.4-30.2	Ward and others (1969, p. 21)

The analytical results for the atomic-absorption and fluorometric analyses are presented as discrete values in tables 4 through 6. In tables 10 through 12, however, the data are given in terms of six-step intervals (table 2) to provide statistical treatment consistent with that given for the semiquantitative analyses.

RESULTS OF ANALYSES

Tables 4 through 6 list the chemical analyses for rock, minus 60-mesh stream-sediment, and nonmagnetic heavy-mineral concentrate samples, respectively. In each table sample numbers are listed in column 1, columns 2 and 3 are north latitudes and west longitudes in degrees, minutes and seconds; and columns 4 and 5 are the Universal Transverse Mercator (UTM) coordinates for easting and northing. Data for each element are headed by the element symbol, reporting unit, and type of analysis. Tables 4 through 6 were produced using the program PUBLST written by J. B. Fyfe (written commun., 1980) of the U.S. Geological Survey. When an element was not detected by any type of analysis, it was left off the table.

In table 4 through 12, the analytical data for calcium, iron, magnesium, and titanium are reported in percent (pct.); values for all other elements are given in parts per million (ppm). Atomic-absorption analysis is denoted by aa, and fluorometry by INST.

Data for tables 4 through 12 were entered into the U.S. Geological Survey RASS-STATPAC system described by Van Trump and Miesch (1976).

STATISTICAL SUMMARIES

The data for each sample type were combined to produce a statistical summary presented in tables 7 through 9. Values for the statistical summaries were obtained from tables 10 through 12 which are frequency tables and histograms for each analysis. Tables 10 through 12 were generated using the statistical program TOTS, written by R. D. Koch (written commun., 1981).

The values corresponding with N, L, or G, in tables 10 through 12 were not considered in the histograms and the resulting statistics are therefore biased. Many of the histograms show this bias by their truncated form.

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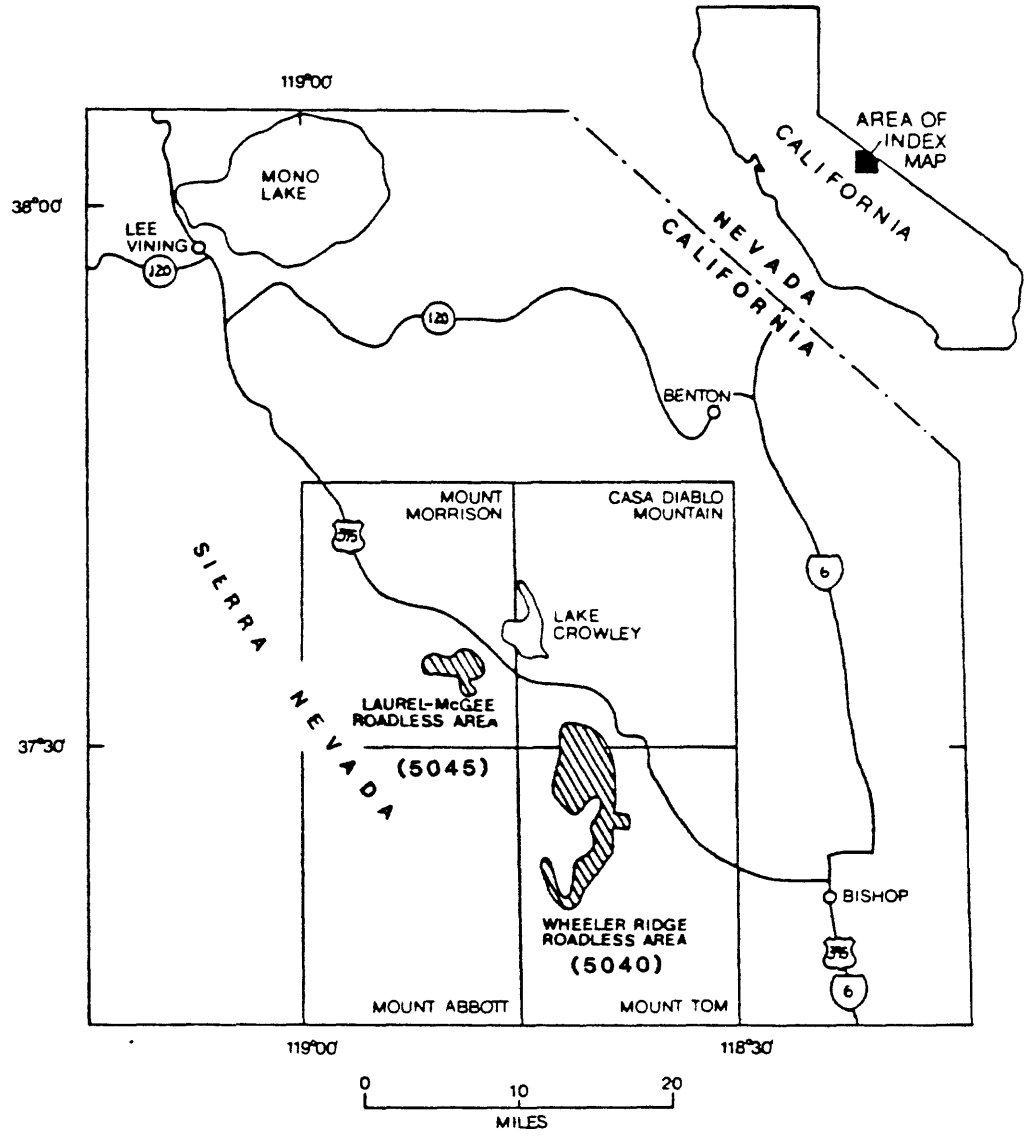


Figure 1. INDEX MAP SHOWING LOCATION OF ROADLESS AREAS AND QUADRANGLES

Table 1.--Upper and lower limits of detection

[All analyses by semiquantitative emission spectrography except as noted; aa, atomic absorption spectrometry; INST, fluorometry; ppm, parts per million]

Elements and reporting units	Determination limits for rock and stream-sediment samples		Determination limits for dense-mineral concentrate samples	
	Lower	Upper	Lower	Upper
Ca, percent	0.05	20	0.1	50
Fe, percent	.05	20	.1	50
Mg, percent	.02	10	.05	20
Ti, percent	.002	1	.005	2
Ag, ppm	.5	5,000	1	10,000
As, ppm	200	10,000	500	20,000
Au, ppm	10	500	20	1,000
B, ppm	10	2,000	20	5,000
Ba, ppm	20	5,000	50	10,000
Be, ppm	1	1,000	2	2,000
Bi, ppm	10	1,000	20	2,000
Cd, ppm	20	500	50	1,000
Co, ppm	5	2,000	10	50
Cr, ppm	10	5,000	20	10,000
Cu, ppm	5	20,000	10	50,000
La, ppm	20	1,000	50	2,000
Mn, ppm	10	5,000	20	10,000
Mo, ppm	5	2,000	10	5,000
Nb, ppm	20	2,000	50	5,000
Ni, ppm	5	5,000	10	10,000
Pb, ppm	10	20,000	20	50,000
Th, ppm	100	2,000	200	5,000
Sb, ppm	100	10,000	200	20,000
Sc, ppm	5	100	10	200
Sn, ppm	10	1,000	20	2,000
Sr, ppm	100	5,000	200	10,000
V, ppm	10	10,000	20	20,000
W, ppm	50	10,000	100	20,000
Y, ppm	10	2,000	20	5,000
Zn, ppm	200	10,000	500	20,000
Zr, ppm	10	1,000	20	2,000
Au-aa, ppm	.002	1/	2/	--
Hg-aa, ppm	.02	1/	2/	--
Zn-aa, ppm	5	1/	2/	--
U-INST, ppm	.05	1/	2/	--

1/Dilution during sample preparation eliminates any upper detection limit.

2/No atomic absorption nor fluorometry analysis performed.

Table 2.--Six-step reporting values and ranges

Reporting values (class interval midpoints)	Concentration ranges	Class interval widths
1.5	1.2 - 1.8	0.6
2.0	1.8 - 2.6	.8
3.0	2.6 - 3.8	1.2
5.0	3.8 - 5.6	1.8
7.0	5.6 - 8.3	2.7
10	8.3 - 12	3.7

Table 3.--Qualification codes used in tables 4 through 12
[n refers to value of upper or lower limit of determination]

Code in tables 4 through 9	Code in tables 10 through 12	Meaning
--	B	Blank; no analysis performed
N	N	Not detected by analysis
<n	L	Detected, but below the lower limit of determination shown
>n	G	Element present in an amount greater than the upper limit of determination shown

EXPLANATION OF TABLE HEADINGS AND ABBREVIATIONS
FOR TABLES 4 THROUGH 6

VALUE = the data value
NO. = number of occurences of this value
% = NO. as percent of total number of data values (ANAL)
CUM = number of unqualified records at and below this value
CUM %
(col 1)= unqualified values at or below this value, as percent of ANAL
(col 2)= unqualified values above this value, as percent of ANAL
TOT CUM = number of values (N, L, T + unqual.) at or below this value
TOT CUM %
(col 1)= values not B, H, or OTHER at or below this value, as percent of ANAL
(col 2)= values not B, H, or OTHER above this value, as percent of ANAL

B - value = number of values qualified with 'B' (= no data)
- percent = percent of all records read (READ)
T - value = number of values qualified with 'T' (= trace)
- percent = percent of all values not B, H, or OTHER (ANAL)
H - value = number of values qualified with 'H' (= interference)
- percent = percent of all values not B, H, or OTHER (ANAL)
N - value = number of values qualified with 'N' (= not detected)
- percent = percent of all values not B, H, or OTHER (ANAL)
L - value = number of values qualified with 'L' (= less than)
- percent = percent of all values not B, H, or OTHER (ANAL)
G - value = number of values qualified with 'G' (= greater than)
- percent = percent of all values not B, H, or OTHER (ANAL)
OTHER = number of qualified values which are not B, T, H, N, L, or G
- percent = percent of all records read (READ)
UNQUAL = number of unqualified data values
- percent = percent of values not B, H, or OTHER (ANAL)
ANAL = total number of valid data values (= unqualified + N, L, T, or G)
READ = number of input records read

MIN = minimum unqualified value
MAX = maximum unqualified value
AMEAN = arithmetic mean of unqualified values
SD = standard deviation of the unqualified values
GMEAN = geometric mean of unqualified values
GD = geometric deviation of unqualified values
VALUES = number of data values used to compute the above statistics.

Table 4 Data for rock samples

Sample	Latitude	Longitude	Easting UTM	Northing UTM	Ca-pct s	Fe-pct s	Mg-pct s	Ti-pct s	Ag-ppm s	B-ppm s	Ba-ppm s	Be-ppm s
CD401RK	37 31 42	118 38 37	354,760	4,154,540	1.0	1.5	.5	.10	N	10	1,000	1.5
CD402RK	37 31 30	118 38 42	354,640	4,154,190	.5	1.0	.2	.07	N	<10	300	2.0
MM400RK	37 32 51	118 49 35	338,660	4,156,980	1.5	2.0	1.5	.20	.7	70	1,000	2.0
MM401RK	37 33 13	118 48 56	339,620	4,157,640	.7	1.5	1.5	.20	.7	300	1,500	2.0
MM403RK	37 33 40	118 47 38	341,550	4,158,420	.5	1.0	1.0	.20	1.0	150	700	1.0
MM405RK	37 35 36	118 49 59	338,160	4,162,080	20.0	.5	.5	.03	N	N	20	<1.0
MM406RK	37 35 27	118 51 2	336,510	4,161,820	5.0	1.5	1.0	.30	N	100	1,000	1.5
MM409RK	37 35 19	118 51 17	336,240	4,161,590	10.0	1.0	1.5	.15	1.0	100	2,000	1.5
MT101RK	37 24 41	118 39 9	353,750	4,141,600	1.0	1.5	.7	.15	.5	<10	500	2.0
MT102RK	37 25 14	118 38 39	354,510	4,142,590	1.0	2.0	.7	.15	N	<10	500	2.0
MT104RK	37 26 19	118 38 25	354,880	4,144,600	1.0	1.0	.3	.10	N	<10	500	2.0
MT106RK	37 29 53	118 38 26	354,930	4,151,190	.7	1.0	.2	.07	N	<10	500	2.0
MT201RK	37 28 42	118 38 35	354,720	4,149,000	1.5	3.0	1.5	.20	N	10	300	1.5
MT204RK	37 25 8	118 42 20	349,070	4,142,490	.5	1.0	.3	.10	N	<10	1,000	1.5
MT301RK	37 28 44	118 40 35	351,760	4,149,100	1.5	2.0	1.0	.15	N	<10	500	1.5
MT302RK	37 29 31	118 40 35	351,800	4,150,570	1.0	1.0	.5	.10	2.0	10	500	2.0
MT400RK	37 29 39	118 42 33	348,900	4,150,860	1.0	3.0	1.0	.20	N	10	700	1.0
MT402RK	37 23 25	118 44 11	346,290	4,139,390	1.0	3.0	1.0	.20	N	20	700	3.0
MT403RK	37 23 30	118 43 57	346,640	4,139,510	1.5	3.0	1.5	.20	N	10	700	1.0
MT406RK	37 21 48	118 41 17	350,520	4,136,310	.5	1.5	.7	.20	N	<10	1,000	1.0
MT407ARK	37 22 42	118 40 49	351,240	4,137,970	1.0	1.5	.5	.10	N	<10	1,500	2.0
MT407BRK	37 22 42	118 40 49	351,240	4,137,970	3.0	2.0	2.0	.15	N	N	100	1.0
MT408RK	37 23 13	118 40 30	351,720	4,138,910	.5	1.0	.2	.10	N	<10	1,500	1.5
MT410RK	37 23 43	118 39 58	352,510	4,139,810	1.0	1.5	.5	.15	N	10	1,000	2.0

Table 4 Data for rock samples

Sample	Ba-ppm s	Cr-ppm s	Cu-ppm s	La-ppm s	Mn-ppm s	Mo-ppm s	La-ppm s	Ni-ppm s	Pb-ppm s	Sc-ppm s	Sr-ppm s	V-ppm s	W-ppm s
CD40 1RK	5	<10	5	20	300	N	<20	5	10	7	300	50	N
CD40 2RK	N	<10	<5	30	500	L	<20	5	20	7	200	30	N
MM400RK	5	50	30	20	300	5	<20	20	20	10	200	100	N
MM401RK	5	100	70	20	200	10	<20	20	15	10	200	200	N
MM403RK	10	50	30	30	200	N	N	20	15	10	<100	100	N
MM405RK	N	<10	<5	<20	700	N	N	<5	10	<5	500	10	N
MM406RK	10	30	20	50	500	10	<20	50	10	15	300	70	<50
MM409RK	N	70	20	<20	500	10	N	7	20	10	500	150	N
MT101RK	7	<10	<5	50	500	N	N	7	15	7	500	50	N
MT102RK	10	<10	<5	50	500	N	N	7	15	7	500	70	N
MT104RK	<5	N	<5	30	200	N	N	5	10	7	300	50	N
MT106RK	5	<10	<5	<20	200	N	N	7	20	5	300	50	N
MT201RK	20	10	5	<20	500	N	N	10	20	10	500	100	N
MT204RK	<5	N	5	<20	200	L	N	5	15	5	200	50	N
MT301RK	10	10	7	<20	300	N	L	7	20	10	500	70	N
MT302RK	<5	<10	15	50	500	N	N	7	30	7	300	50	N
MT400RK	15	15	10	50	500	N	<20	10	20	10	500	70	N
MT402RK	10	10	10	50	500	N	<20	7	15	10	300	70	N
MT403RK	15	15	10	50	500	N	<20	10	15	15	500	100	N
MT406RK	<5	50	10	20	100	N	N	7	N	10	150	100	N
MT407ARK	5	<10	<5	20	500	N	<20	5	15	5	300	20	N
MT407BRK	15	100	5	20	500	N	N	30	<10	30	300	100	N
MT408RK	N	<10	<5	50	500	N	N	5	20	<5	200	10	N
MT410RK	5	<10	<5	50	500	N	<20	5	10	7	300	50	N

Table 4. Data for rock samples

Sample	Y-ppm s	Yb-ppm s	Pb-ppm s	Au-ppm aa	Zn-ppm aa	U-INST
CD401RK	15	N	50	N	30	--
CD402RK	20	N	70	N	15	2.9
MM406RK	15	N	100	.007	75	1.1
MM401RK	20	N	100	.002	85	3.6
MM403RK	20	N	100	.006	35	--
MM405RK	<10	N	50	N	30	--
MM406RK	20	N	100	.036	75	--
MM409RK	15	N	70	.023	35	2.4
MT101RK	10	N	70	N	40	--
MT102RK	10	N	70	N	30	--
MT104RK	<10	N	100	N	30	--
MT106RK	<10	N	100	N	30	--
MT201RK	10	N	70	N	55	--
MT204RK	<10	N	50	N	20	--
MT301RK	10	N	100	N	45	--
MT302RK	15	<200	70	N	60	--
MT400RK	15	N	70	N	35	1.1
MT402RK	20	N	100	<.002	35	2.9
MT403RK	20	N	200	N	25	2.6
MT406RK	15	N	150	<.002	50	--
MT407ARK	10	N	100	.004	30	--
MT407BRK	15	N	70	N	5	--
MT408RK	<10	N	70	N	20	--
MT410RK	10	N	70	N	25	--

Table 5 Data for stream-sediment samples

Sample	Latitude	Longitude	Easting UTM	Northing UTM	Fe-pct s	Mg-pct. s	Ca-pct. s	Ti-pct. s	Mn-ppm s	Ag-ppm s	As-ppm s	Au-ppm s
CD005SS	37 30 14	118 38 15	355,260	4,151,820	3.0	.7	1.0	.30	700	N	N	N
CD400SS	37 31 44	118 42 33	349,980	4,154,720	5.0	.5	1.0	.30	500	N	N	N
CD401SS	37 31 42	118 38 37	354,760	4,154,540	1.5	.3	1.5	.20	700	N	N	N
CD402SS	37 31 30	118 38 42	354,640	4,154,190	1.5	.3	1.0	.15	700	N	N	N
MM001SS	37 35 50	118 48 12	340,310	4,162,430	1.5	.5	.5	.15	700	N	N	N
MM400SS	37 32 51	118 49 35	338,660	4,156,980	5.0	2.0	1.0	.30	500	.5	N	N
MM401SS	37 33 13	118 48 56	339,620	4,157,640	3.0	1.0	1.5	.30	500	5.0	N	10
MM402SS	37 33 7	118 48 18	340,560	4,157,430	3.0	1.5	2.0	.20	700	<.5	N	N
MM403SS	37 33 40	118 47 38	341,550	4,158,420	3.0	1.0	7.0	.15	500	.5	N	N
MM404SS	37 34 22	118 47 17	342,100	4,159,720	7.0	1.5	1.5	.30	2,000	.5	N	N
MM405SS	37 35 36	118 49 52	338,160	4,162,080	2.0	1.0	2.0	.20	700	<.5	N	N
MM406SS	37 35 27	118 51 2	336,610	4,161,820	2.0	1.0	1.0	.15	1,000	.7	N	N
MM407SS	37 35 16	118 51 58	335,240	4,161,500	1.5	1.5	15.0	.10	700	.7	N	N
MM408SS	37 35 7	118 51 51	335,410	4,161,240	1.0	1.0	7.0	.10	500	.7	N	N
MT102SS	37 25 14	118 38 39	354,510	4,142,590	7.0	1.5	1.5	.50	1,500	N	N	N
MT103SS	37 25 45	118 38 39	354,530	4,143,540	7.0	1.5	1.5	.50	1,000	N	N	N
MT104SS	37 26 19	118 38 25	354,880	4,144,600	5.0	1.5	2.0	.50	1,000	N	N	N
MT105SS	37 26 57	118 38 12	355,210	4,145,770	5.0	1.5	1.5	.50	1,000	N	N	N
MT106SS	37 29 53	118 38 26	354,980	4,151,190	5.0	1.5	1.5	.30	1,000	N	N	N
MT202SS	37 28 51	113 38 34	354,740	4,149,270	5.0	1.5	1.5	.30	1,500	N	N	N
MT203SS	37 28 53	118 38 36	354,710	4,149,340	3.0	1.0	1.5	.30	1,000	N	N	N
MT204SS	37 25 8	118 42 20	349,070	4,142,490	2.0	1.5	1.0	.50	1,000	N	N	N
MT301SS	37 28 44	118 40 35	351,760	4,149,100	7.0	1.5	1.0	.50	700	N	N	N
MT302SS	37 29 31	118 40 35	351,800	4,150,570	3.0	1.0	1.5	.30	700	N	N	N
MT400SS	37 29 39	118 42 33	348,900	4,150,860	2.0	1.0	2.0	.20	500	N	N	N
MT401SS	37 29 41	118 43 2	348,190	4,150,940	2.0	.7	1.5	.30	300	N	N	N
MT402SS	37 23 25	118 44 11	346,290	4,139,390	1.5	.5	1.0	.20	300	N	N	N
MT403SS	37 23 30	118 43 57	346,640	4,139,510	1.5	1.0	1.0	.20	500	N	N	N
MT404SS	37 22 35	118 43 26	347,370	4,137,820	5.0	1.0	10.0	.10	5,000	5.0	N	N
MT405SS	37 22 25	118 43 20	347,510	4,137,510	2.0	1.5	15.0	.10	3,000	3.0	N	N
MT406SS	37 21 49	118 41 17	350,520	4,136,310	2.0	1.0	1.0	.20	300	N	N	N
MT407SS	37 22 42	118 40 49	351,240	4,137,970	2.0	1.0	3.0	.10	3,000	2.0	N	N
MT408SS	37 23 13	118 40 30	351,720	4,138,910	2.0	1.0	1.0	.15	500	<.5	N	N
MT409SS	37 23 0	118 40 17	352,020	4,138,510	3.0	1.0	7.0	.15	3,000	1.5	N	N
MT410SS	37 23 43	118 39 58	352,510	4,139,810	2.0	1.0	1.5	.20	1,500	N	N	N
MT411SS	37 27 37	118 42 45	348,550	4,147,120	2.0	1.0	1.5	.20	500	N	N	N
MT412SS	37 28 22	118 42 39	348,710	4,148,480	2.0	1.0	1.0	.30	700	N	N	N

Table 5. Data for stream-sediment samples

Sample	Ag-ppm s	Ba-ppm s	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
CD003SS	10	500	1.5	N	N	7	15	7	150	N	<20	<5	20
CD400SS	10	500	1.5	N	N	10	30	15	30	N	<20	7	20
CD401SS	10	500	2.0	N	N	7	10	7	100	N	<20	5	15
CD402SS	15	300	2.0	N	N	<5	10	5	100	N	<20	5	15
MM001SS	30	300	3.0	N	N	7	20	20	70	5	20	20	50
MM400SS	70	1,000	2.0	N	N	30	70	100	70	5	N	50	30
MM401SS	50	500	2.0	N	N	10	50	15	100	<5	<20	15	15
MM402SS	70	500	2.0	N	N	7	50	30	70	7	<20	20	20
MM403SS	100	500	2.0	N	N	15	50	150	70	5	<20	50	30
MM404SS	50	500	1.5	N	N	10	30	200	50	<5	N	30	50
MM405SS	30	500	2.0	N	N	7	20	30	20	<5	<20	20	20
MM406SS	50	500	2.0	N	N	15	30	50	50	5	<20	50	30
MM407SS	50	500	1.0	N	N	5	50	20	20	<5	N	20	20
MM408SS	50	300	2.0	N	N	5	30	20	70	5	N	20	20
MT102SS	10	500	3.0	N	N	15	15	20	50	5	20	5	20
MT103SS	<10	300	2.0	N	N	15	30	15	70	N	20	10	20
MT104SS	10	500	2.0	N	N	20	15	15	70	N	20	7	20
MT105SS	<10	500	2.0	N	N	15	20	20	100	7	20	5	20
MT106SS	15	300	2.0	N	N	10	20	15	70	7	20	10	30
MT202SS	15	500	2.0	N	N	10	20	15	70	<5	<20	10	30
MT203SS	10	500	2.0	N	N	10	10	15	100	5	20	7	30
MT204SS	20	500	2.0	N	N	15	20	30	50	5	<20	15	30
MT301SS	<10	500	2.0	N	N	20	50	50	70	N	<20	10	20
MT302SS	20	500	1.5	N	N	15	30	15	70	N	<20	7	50
MT400SS	10	300	2.0	N	N	15	15	10	50	N	N	10	20
MT401SS	10	500	1.5	N	N	10	20	10	50	10	N	7	20
MT402SS	15	300	2.0	N	N	7	20	10	50	10	<20	10	20
MT403SS	20	500	2.0	N	N	7	30	20	50	7	<20	15	20
MT404SS	15	700	10.0	50	N	10	50	1,000	30	150	N	15	10
MT405SS	15	1,000	10.0	50	N	10	50	300	20	150	N	20	70
MT406SS	15	700	2.0	N	N	15	50	30	50	20	N	30	10
MT407SS	50	1,500	7.0	30	N	7	50	50	50	50	<20	30	15
MT408SS	15	700	2.0	N	N	10	20	20	50	15	N	20	10
MT409SS	15	1,000	7.0	30	N	7	30	150	30	50	N	15	15
MT410SS	<10	500	5.0	30	N	10	20	20	30	15	<20	10	15
MT411SS	15	500	1.5	N	N	10	20	15	50	5	<20	10	20
MT412SS	20	500	2.0	N	N	10	10	10	50	N	<20	10	20

Table 5 Data for stream-sediment samples

Sample	Sb-ppm s	Sc-ppm s	Sn-ppm s	Sr-ppm s	Te-ppm s	V-ppm s	W-ppm s	Y-ppm s	Zn-ppm s	Zr-ppm s	Th-ppm s	Zn-ppm aa	Au-ppm aa
CD303SS	N	15	N	300	--	70	N	30	N	500	<100	25	.003
CD401SS	N	15	N	500	--	100	N	20	N	150	N	35	N
CD401SS	N	10	N	300	--	70	N	20	N	200	N	20	N
CD402SS	N	5	N	300	--	50	N	20	N	200	N	25	.003
MM301SS	N	10	N	150	--	70	N	15	N	150	N	75	<.002
MM400SS	N	15	N	200	--	150	N	20	300	100	N	130	.065
MM401SS	N	20	N	200	--	150	N	30	N	150	N	45	<.002
MM402SS	N	15	N	300	--	150	N	20	N	70	N	60	.010
MM403SS	N	10	N	300	--	100	N	20	300	100	N	180	.033
MM404SS	N	10	N	200	--	200	N	20	200	200	N	150	.005
MM405SS	N	7	N	150	--	70	N	15	<200	150	N	100	.002
MM406SS	N	10	N	200	--	100	N	30	<200	100	N	200	.045
MM407SS	N	7	N	300	--	100	N	20	N	70	N	180	.006
MM408SS	N	7	N	200	--	70	N	20	N	70	N	110	.007
MT102SS	N	20	N	300	--	150	N	15	N	300	N	55	.002
MT103SS	N	20	N	300	--	150	N	15	N	200	N	50	<.002
MT104SS	N	30	N	500	--	100	N	20	N	200	N	40	<.002
MT105SS	N	20	N	300	--	100	<50	20	N	700	N	55	.013
MT106SS	N	15	N	300	--	100	<50	20	N	200	N	55	N
MT202SS	N	15	N	500	--	70	N	20	N	100	N	55	N
MT203SS	N	15	N	300	--	70	N	20	N	200	N	65	.003
MT204SS	N	15	N	300	--	100	70	15	N	150	N	75	N
MT301SS	N	20	N	300	--	150	N	15	N	500	N	70	N
MT302SS	N	20	N	300	--	100	N	20	N	200	N	40	N
MT400SS	N	20	N	500	--	70	N	20	N	150	N	60	N
MT401SS	N	15	N	300	--	70	N	15	N	70	N	30	.002
MT402SS	N	10	N	200	--	50	N	15	N	100	N	25	.002
MT403SS	N	15	N	200	--	50	N	15	N	70	N	35	N
MT404SS	N	10	70	200	--	100	200	10	700	30	N	300	.012
MT405SS	N	10	30	500	--	70	200	15	500	70	N	130	.006
MT406SS	N	15	N	300	--	100	N	15	N	100	N	80	.005
MT407SS	N	10	20	200	--	150	50	15	500	100	N	300	.010
MT408SS	N	10	N	300	--	70	N	15	N	70	N	130	.005
MT409SS	N	15	20	300	--	100	100	15	300	70	N	120	.010
MT410SS	N	10	10	300	--	70	<50	15	N	70	N	65	.045
MT411SS	N	15	N	300	--	70	N	20	N	150	N	40	N
MT412SS	N	15	N	300	--	70	N	20	N	100	N	45	<.002

Table 5 Data for stream-sediment samples

Sample	Hg-ppm	U-INST
	dl	
CD003SS	--	--
CD400SS	--	--
CD401SS	--	--
CD402SS	--	--
MM001SS	--	--
MM400SS	--	--
MM401SS	--	--
MM402SS	--	--
MM403SS	--	--
MM404SS	--	--
MM405SS	--	--
MM406SS	--	--
MM407SS	--	--
MM408SS	--	--
MT102SS	--	--
MT103SS	--	--
MT104SS	--	--
MT105SS	--	--
MT106SS	--	--
MT202SS	--	--
MT203SS	--	--
MT204SS	--	--
MT301SS	--	--
MT302SS	--	--
MT400SS	--	--
MT401SS	--	--
MT402SS	--	--
MT403SS	--	--
MT404SS	--	--
MT405SS	--	--
MT406SS	--	--
MT407SS	--	--
MT408SS	--	--
MT409SS	--	--
MT410SS	--	--
MT411SS	--	--
MT412SS	--	--

Table 5 Data for nonmagnetic heavy-mineral concentrate samples

Sample	Latitude	Longitude	Easting UTM	Northing UTM	Ca-pct s	Fe-pct s	Mg-pct s	Ti-pct s	Ag-ppm s	As-ppm s	B-ppm s	Ba-ppm s
CD303KN	37 31 14	118 38 15	355,260	4,151,320	7	.5	.20	>2.0	N	N	50	150
CD400KN	37 31 44	118 42 53	348,980	4,154,720	10	.7	.50	>2.0	N	N	100	150
CD401KN	37 31 42	118 38 37	354,760	4,154,540	5	.5	.20	>2.0	N	N	50	200
CD402KN	37 31 30	118 38 42	354,640	4,154,190	5	.7	.30	>2.0	N	N	150	150
MM001KN	37 35 50	118 48 12	340,310	4,162,430	5	3.0	1.50	>2.0	N	N	100	500
MM400KN	37 32 51	118 49 35	338,060	4,156,980	10	3.0	5.00	.7	N	N	70	500
MM401KN	37 33 13	118 49 56	339,620	4,157,640	10	1.5	1.50	>2.0	N	N	200	500
MM402KN	37 33 7	118 48 18	340,560	4,157,430	10	1.5	3.00	2.0	N	N	300	300
MM403KN	37 33 40	118 47 38	341,550	4,158,420	10	5.0	2.00	2.0	2	N	150	500
MM404KN	37 34 22	118 47 17	342,100	4,159,720	7	3.0	1.50	2.0	N	N	70	700
MM405KN	37 35 36	118 49 59	338,160	4,162,080	10	2.0	1.00	>2.0	5	N	150	300
MM406KN	37 35 27	118 51 2	336,610	4,161,820	10	2.0	3.00	>2.0	1	500	70	700
MM407KN	37 35 16	118 51 58	335,240	4,161,500	15	2.0	5.00	.5	20	2,000	100	500
MM408KN	37 35 7	118 51 51	335,410	4,161,240	10	1.0	3.00	2.0	N	N	30	300
MT101KN	37 24 41	118 39 9	353,750	4,141,600	7	.7	1.00	>2.0	N	N	70	500
MT102KN	37 25 14	118 38 39	354,510	4,142,590	7	.7	.50	>2.0	N	N	50	300
MT103KN	37 25 45	118 38 39	354,530	4,143,540	10	1.0	.50	>2.0	N	N	70	200
MT104KN	37 26 19	118 38 25	354,880	4,144,600	7	1.0	.50	>2.0	N	N	<20	300
MT105KN	37 26 57	118 38 12	355,210	4,145,770	7	1.0	.70	>2.0	N	N	50	200
MT106KN	37 29 53	118 38 26	354,980	4,151,190	10	.7	1.50	>2.0	N	N	50	500
MT201KN	37 23 42	118 38 35	354,720	4,149,000	10	2.0	3.00	2.0	<1	N	300	500
MT202KN	37 28 51	118 38 34	354,740	4,149,270	7	.7	.30	>2.0	N	N	70	200
MT203KN	37 28 53	118 38 36	354,710	4,149,340	7	1.0	.50	>2.0	N	N	70	300
MT204KN	37 25 8	118 42 20	349,070	4,142,490	10	2.0	5.00	>2.0	N	N	500	500
MT301KN	37 28 44	118 40 35	351,760	4,149,100	7	.5	.15	>2.0	N	N	20	150
MT302KN	37 29 31	118 40 35	351,800	4,150,570	10	.5	.20	>2.0	N	N	50	100
MT400KN	37 29 39	118 42 33	348,900	4,150,860	7	.5	.10	>2.0	N	N	20	150
MT401KN	37 29 41	118 43 2	348,190	4,150,940	10	1.0	.20	>2.0	3	N	50	100
MT402KN	37 23 25	118 44 11	346,290	4,139,390	7	.5	.20	>2.0	N	N	30	100
MT403KN	37 23 30	118 43 57	346,640	4,139,510	7	1.0	.50	>2.0	N	N	30	200
MT404KN	37 22 35	118 43 26	347,370	4,137,820	15	1.5	2.00	.7	20	N	70	1,000
MT405KN	37 22 25	118 43 20	347,510	4,137,510	10	1.5	2.00	.3	3	N	50	200
MT406KN	37 21 49	118 41 17	350,520	4,136,310	5	10.0	.50	>2.0	20	2,000	150	500
MT407KN	37 22 42	118 40 49	351,240	4,137,970	5	2.0	5.00	.7	1	N	500	3,000
MT408KN	37 23 13	118 40 30	351,720	4,138,910	10	3.0	2.00	2.0	20	N	70	1,500
MT409KN	37 23 0	118 40 17	352,020	4,138,510	10	1.5	2.00	1.0	7	N	70	700
MT410KN	37 23 43	118 39 58	352,510	4,139,810	5	1.5	2.00	>2.0	N	N	30	500
MT411KN	37 27 37	118 42 45	348,550	4,147,120	7	.5	.30	>2.0	N	N	30	100
MT412KN	37 28 22	118 42 39	348,710	4,148,480	7	.5	.20	>2.0	N	N	30	100

Table 6. Data for nonmagnetic heavy-mineral concentrate samples

Sample	Ag-ppm s	Bi-ppm s	Ca-ppm s	Cr-ppm s	Cu-ppm s	La-ppm s	Mn-ppm s	Mo-ppm s	Nb-ppm s	Ni-ppm s	Pb-ppm s	Sc-ppm s	Sn-ppm s
CD003KN	N	N	N	30	<10	2,000	500	30	200	N	30	30	50
CD400KN	N	200	N	50	<10	500	500	50	200	N	30	50	50
CD401KN	N	N	20	50	15	>2,000	500	30	150	N	70	100	20
CD402KN	N	N	N	50	10	>2,000	1,000	15	100	10	50	200	30
MM001KN	<2	20	20	100	15	2,000	1,000	20	300	50	50	50	30
MM400KN	<2	N	10	50	30	200	1,000	<10	50	50	70	20	N
MM401KN	N	30	10	70	15	500	700	20	150	<10	30	20	20
MM402KN	<2	N	10	100	50	300	700	20	100	30	200	20	20
MM403KN	<2	N	20	50	50	300	500	10	50	50	300	20	N
MM404KN	2	N	N	50	30	200	1,000	10	50	30	200	20	<20
MM405KN	<2	N	15	50	10	500	1,000	100	200	20	1,000	15	30
MM406KN	<2	N	50	50	70	500	1,000	15	70	30	3,000	20	<20
MM407KN	<2	500	15	70	20	100	700	10	<50	50	2,000	15	20
MM408KN	N	N	N	70	10	200	700	20	70	20	50	15	<20
MT101KN	2	100	N	30	10	500	700	30	200	N	30	20	50
MT102KN	<2	20	<10	20	10	300	700	50	200	N	50	30	30
MT103KN	N	N	15	50	10	500	700	30	500	N	70	20	50
MT104KN	N	N	15	20	10	700	700	20	200	N	50	20	50
MT105KN	2	100	<10	20	20	300	700	100	300	N	100	20	50
MT106KN	<2	N	10	30	10	1,500	1,000	50	200	<10	70	50	70
MT201KN	<2	N	N	50	15	200	1,000	30	150	N	20	15	30
MT202KN	<2	20	N	20	10	700	700	50	200	N	50	30	70
MT203KN	N	N	50	30	<10	700	1,000	70	300	N	100	50	150
MT204KN	2	70	<10	70	20	500	1,000	50	150	20	50	20	30
MT301KN	N	N	<10	20	<10	500	500	50	300	N	30	20	50
MT302KN	N	N	N	20	20	700	1,000	100	300	N	50	20	100
MT400KN	N	N	N	20	10	700	700	50	300	N	50	20	70
MT401KN	N	N	<10	20	N	1,000	700	70	300	N	100	30	100
MT402KN	N	N	N	30	<10	1,000	700	70	200	N	50	50	70
MT403KN	N	N	<10	50	15	700	700	200	500	N	50	30	100
MT404KN	15	100	N	70	700	<50	1,500	5,000	<50	N	20	15	50
MT405KN	15	200	<10	50	500	N	1,000	5,000	N	N	50	N	100
MT406KN	<2	1,000	200	50	700	500	500	200	150	150	2,000	30	100
MT407KN	10	500	20	70	50	300	1,000	200	<50	50	70	20	N
MT408KN	2	300	100	50	100	500	700	500	300	50	200	30	20
MT409KN	10	200	15	50	1,000	<50	1,500	5,000	50	20	150	15	50
MT410KN	5	700	30	30	50	700	700	200	200	N	100	20	50
MT411KN	N	N	N	20	<10	700	700	50	300	N	50	30	70
MT412KN	N	<20	N	20	10	700	700	50	300	N	50	30	70

Table 6 Data for nonmagnetic heavy-mineral concentrate samples

Sample	Sr-ppm s	Th-ppm s	V-ppm s	W-ppm s	Y-ppm s	Zn-ppm s	Zr-ppm s
CD003KN	<200	1,500	200	100	1,000	N	>2,000
CD400KN	<200	1,000	300	300	1,000	N	>2,000
CD401KN	N	5,000	200	200	1,500	N	>2,000
CD402KN	N	5,000	200	<100	1,000	N	>2,000
MM001KN	N	1,000	300	500	500	N	>2,000
MM400KN	300	N	200	100	100	N	1,500
MM401KN	200	1,000	300	500	500	N	>2,000
MM402KN	200	500	300	500	200	N	>2,000
MM403KN	300	<200	200	150	300	N	>2,000
MM404KN	500	200	200	200	100	N	2,000
MM405KN	200	1,000	200	300	500	N	>2,000
MM406KN	200	<200	200	300	200	N	>2,000
MM407KN	200	300	200	2,000	50	N	>2,000
MM408KN	N	<200	200	1,000	150	N	>2,000
MT101KN	200	700	200	200	500	N	>2,000
MT102KN	300	2,000	200	300	500	N	>2,000
MT103KN	300	1,500	200	500	500	N	>2,000
MT104KN	200	1,000	300	100	700	N	>2,000
MT105KN	200	1,500	200	500	700	N	>2,000
MT106KN	200	1,500	200	200	700	N	>2,000
MT201KN	500	200	200	200	300	1,000	2,000
MT202KN	200	1,000	200	300	700	N	>2,000
MT203KN	200	1,000	200	300	1,000	500	>2,000
MT204KN	200	300	300	500	500	N	>2,000
MT301KN	N	1,500	300	100	700	N	>2,000
MT302KN	N	500	200	150	1,000	N	2,000
MT400KN	N	2,000	200	100	700	N	>2,000
MT401KN	N	500	200	300	1,000	N	>2,000
MT402KN	N	700	200	100	700	N	>2,000
MT403KN	<200	500	200	700	1,000	N	>2,000
MT404KN	500	N	150	20,000	50	N	300
MT405KN	500	<200	200	20,000	20	N	1,000
MT406KN	<200	1,500	200	5,000	500	N	>2,000
MT407KN	500	<200	300	2,000	100	N	>2,000
MT408KN	300	1,500	200	2,000	300	N	>2,000
MT409KN	500	200	150	20,000	70	N	2,000
MT410KN	<200	1,500	200	1,000	500	N	>2,000
MT411KN	N	1,000	200	100	1,000	N	>2,000
MT412KN	N	1,000	200	100	700	N	>2,000

Table 7.--Summary statistics for the analyses of the 24 rock samples in table 4, Laurel-McGee and Wheeler Ridge Roadless Areas, California

[All concentrations are in parts per million except those for Ca, Fe, Mg, and Ti, which are in percent. All analyses are emission spectrographic unless otherwise indicated. aa, following the element symbol indicates atomic-absorption analysis; INST., fluorometric analysis; N, not detected at the lower limit of determination shown in parentheses. There were no unqualified values for elements As, Au, Bi, Cd, Nb, Sb, Sn, W, Zn, Th, and Hg-aa; thus, meaningful statistical information could not be derived for these elements]

Element	Range of values	Geometric mean	Geometric deviation	Percentiles				
				50	75	90	95	98
Ca (percent)	0.5-20	1.3	2.6	1	1.5	5	7	15
Fe (percent)	.5-3.0	1.5	1.6	1.5	2	3	3	3
Mg (percent)	.2-2.0	.7	2.0	.7	1.5	1.5	1.5	1.5
Ti (percent)	.03-.3	.1	1.6	.15	.2	.2	.2	.2
Ag (ppm)	N(.5)-2.0	.9	1.6	N(.5)	.5	1	1	1.5
B (ppm)	10-300	30.4	3.7	10	15	100	150	200
Ba (ppm)	20-2,000	599	2.6	700	1,000	1,500	1,500	2,000
Be (ppm)	<1.0-3.0	1.6	1.4	1.5	2	2	2	2
Co (ppm)	5-20	9.2	1.6	5	10	15	15	15
Cr (ppm)	10-100	30.3	2.5	10	50	70	100	100
Cu (ppm)	<5-70	12.1	2.2	5	15	20	30	50
La (ppm)	<20-70	38.9	1.6	30	50	50	70	70
Mn (ppm)	100-700	352	1.6	500	500	500	500	600
Mo (ppm)	N(5)-10	8.4	1.4	N(5)	N(5)	7	10	10
Ni (ppm)	<5-30	8.6	1.8	7	10	20	20	30
Pb (ppm)	10-30	15.7	1.4	15	20	20	20	20
Sc (ppm)	<5-30	8.9	1.5	10	10	15	15	20
Sr (ppm)	<150-500	318	1.5	300	500	500	500	500
X (ppm)	10-200	58.3	2.1	70	100	100	150	150
Y (ppm)	<10-20	14.5	1.3	15	15	20	20	20
Zr (ppm)	50-200	82.7	1.4	70	100	100	150	150
Au-aa (ppm)	.002-.03	.008	2.7	N(.002)	.002	.007	.015	.03
Zn-aa (ppm)	5-100	32.2	1.9	30	50	70	70	70
U-INST. (ppm)	1.0-3.0	1.8	1.6	2	3	3	3	3

Table 8.--Summary statistics for the analyses of the 37 minus-60 mesh stream-sediment samples in table 5, Laurel-McGee and Wheeler Ridge Roadless Areas, California

[All concentrations are in parts per million except those for Ca, Fe, Mg, and Ti, which are in percent. All analyses are emission spectrographic unless otherwise indicated. aa, following the element symbol indicates atomic-absorption analysis; N, not detected at the lower limit of determination shown in parentheses. There were no unqualified values for As, Cd, Sb, and Th; thus, meaningful statistical information could not be derived for these elements.]

Element	Range of values	Geometric mean	Geometric deviation	Percentiles				
				50	75	90	95	98
Ca (percent)	5-15	1.8	2.3	1.5	2	7	15	15
Fe (percent)	1-7	2.8	1.7	2	5	7	7	7
Mg (percent)	.3-2	1.0	1.6	1	1.5	1.5	1.5	1.5
Ti (percent)	.1-.5	.2	1.7	.20	.30	.5	0.5	0.5
Ag (ppm)	.5-5	1.3	2.5	N(.5)	.5	1.5	5	5
Au (ppm)	(N(10)-10	10	--	--	--	--	--	--
B (ppm)	<10-100	21.6	2.0	15	30	50	70	100
Ba (ppm)	300-1500	508	1.4	500	500	1,000	1,000	1,500
Be (ppm)	1.0-10	2.3	1.7	2	2	7	10	10
Bi (ppm)	N(30)-50	36.8	1.3	N(10)	N(10)	30	50	50
Co (ppm)	<5-30	10.4	1.5	10	15	15	20	20
Cr (ppm)	10-70	25.0	1.7	20	30	50	50	70
Cu (ppm)	5-1,000	26.3	3.1	20	30	150	200	700
La (ppm)	20-150	54.9	1.6	50	70	100	100	150
Mn (ppm)	300-5,000	837	2.0	700	1,000	2,000	3,000	5,000
Mo (ppm)	5-150	11.2	3.0	5	7	30	100	150
Nb (ppm)	20-20	20	--	--	--	--	--	--
Ni (ppm)	<5-50	13.4	1.9	10	20	30	50	50
Pb (ppm)	10-70	21.7	1.6	20	30	50	50	70
Sc (ppm)	5-30	13.1	1.5	15	15	20	20	20
Sn (ppm)	N(10)-70	24.3	2.0	N(10)	N(10)	15	20	50
Sr (ppm)	150-500	237	1.4	300	300	500	500	500
V (ppm)	50-200	90.9	1.4	100	100	150	150	150
W (ppm)	50-200	107	1.9	N(50)	N(50)	70	150	200
Y (ppm)	10-30	18.1	1.3	20	20	20	30	30
Zn (ppm)	200-700	370	1.5	N(200)	N(200)	300	500	700
Zr (ppm)	30-700	132	1.9	150	200	200	500	700
Au-aa (ppm)	.002-.07	.009	3.22	.002	.01	.05	0.05	0.07
Zn-aa (ppm)	20-300	68.6	2.1	70	150	200	200	300

Table 9.--Summary statistics for the analyses of the 39 nonmagnetic heavy-mineral-concentrate samples in table 6, Laurel-McGee and Wheeler Ridge Roadless Areas, California

[All concentrations are in parts per million except those for Fe, Mg, Ca, and Ti, which are in percent. All analyses are emission spectrographic. N, not detected at the lower limit of determination shown in parentheses. There were no unqualified values for Au, Cd, Sb; thus, meaningful statistical information could not be derived for these elements]

Element	Range of values	Geometric mean	Geometric deviation	Percentiles				
				50	75	90	95	98
Ca (percent)	5-15	8.1	1.3	7	10	10	15	15
Fe (percent)	.5-10	1.2	2.7	1	2	3	5	7
Mg (percent)	.1-5	.86	3.2	1	2	5	5	5
Ti (percent)	.3->2	1.1	2.0	>2	>2	>2	>2	>2
Ag (ppm)	1-20	5.3	3.3	1	1	15	20	20
As (ppm)	N(500)-2,000	1,260	2.2	N(500)	N(500)	N(500)	1,500	2,000
B (ppm)	<20-500	73.3	2.2	70	100	200	500	500
Ba (ppm)	100-3,000	315	2.2	300	500	700	1,500	2,000
Be (ppm)	2-15	4.5	2.5	<2	2	7	15	15
Bi (ppm)	20-1,000	130	3.7	N(20)	100	500	700	1,000
Co (ppm)	10-200	22.8	2.3	<10	15	50	70	150
Cr (ppm)	20-100	38.8	1.7	50	50	70	100	100
Cu (ppm)	10-1,000	29.6	4.0	15	50	300	700	1,000
La (ppm)	100-2,000	50.7	1.9	500	700	1,500	>2,000	>2,000
Mn (ppm)	500-1,500	778	1.3	700	1,000	1,000	1,500	1,500
Mo (ppm)	<10-5,000	65.7	4.8	50	100	300	5,000	5,000
Nb (ppm)	50-500	175	1.9	200	300	300	500	500
Ni (ppm)	10-150	34.2	1.9	N(10)	20	50	50	100
Pb (ppm)	20-3,000	87.0	3.4	50	100	700	2,000	2,000
Sc (ppm)	N(15)-200	26.3	1.7	20	30	50	70	150
Sn (ppm)	20-150	48.4	1.8	50	70	100	100	150
Sr (ppm)	200-500	277	1.5	200	300	500	500	500
Th (ppm)	200-5,000	914	2.2	1,000	1,500	1,500	3,000	5,000
V (ppm)	150-300	214	1.2	200	200	300	300	300
W (ppm)	<100-20,000	442	4.4	300	700	2,000	20,000	20,000
Y (ppm)	20-1,500	388	2.8	500	700	1,000	1,000	1,500
Zn (ppm)	N(500)-1,000	707	1.6	N(500)	N(500)	N(500)	500	700
Zr (ppm)	500->2,000	1426	1.7	>2,000	>2,000	>2,000	>2,000	>2,000

Table 10 Frequency tables and histograms for rock samples

S-CA%

	VALUE	NO.	%	CUM.	CUM. %		TOT CUM	TOT CUM %	
1	0.500	5	20.83	5	20.8	79.2	5	20.8	79.2
2	0.700	2	8.33	7	29.2	70.8	7	29.2	70.8
3	1.000	9	37.50	16	66.7	33.3	16	66.7	33.3
4	1.500	4	16.67	20	83.3	16.7	20	83.3	16.7
5	3.000	1	4.17	21	87.5	12.5	21	87.5	12.5
6	5.000	1	4.17	22	91.7	8.3	22	91.7	8.3
7	10.000	1	4.17	23	95.8	4.2	23	95.8	4.2
8	20.000	1	4.17	24	100.0	0.0	24	100.0	0.0

B	T	H	N	L	G	OTHER	UNQUAL	ANAL	READ	
0	0	0	0	0	0	0	24	24	24	VALUES
0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0			PERCENT

MIN	MAX	AMEAN	SD	GMEAN	GD	VALUES
0.500	20.00	2.371	4.27	1.255	2.55	24

Percent of Values

```
          0.00                  20.00                  40.00                  60.00
                    10.00                  30.00                  50.00
           +---------+---------+---------+---------+---------+---------+
  0.500    +XXXXXXXXXXXXXXXXXXXXI
  0.700    +XXXXXXXI
  1.000    +XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXI
  1.500    +XXXXXXXXXXXXXXXXI
  2.000    +
  3.000    +XXXI
  5.000    +XXXI
  7.000    +
 10.000    +XXXI
 15.000    +
 20.000    +XXXI
           +---------+---------+---------+---------+---------+---------+
          0.00                  20.00                  40.00                  60.00
                    10.00                  30.00                  50.00
```

Each increment (each X or I plotted) = 1.000 %

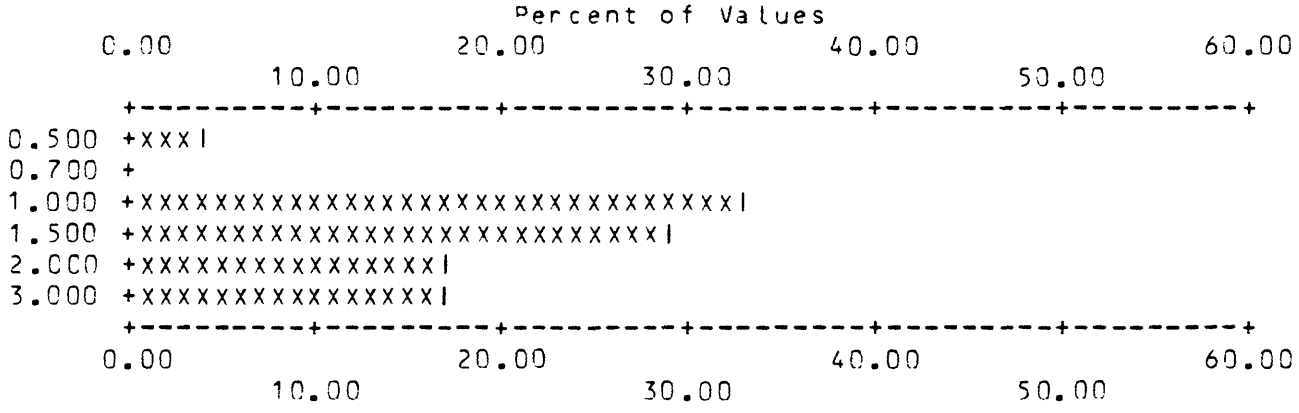
Table 10 Frequency tables and histograms for rock samples - (continued)

S-FE%

	VALUE	NO.	%	CUM.	CUM. %		TOT CUM	TOT CUM %	
1	0.500	1	4.17	1	4.2	95.8	1	4.2	95.8
2	1.000	8	33.33	9	37.5	62.5	9	37.5	62.5
3	1.500	7	29.17	16	66.7	33.3	16	66.7	33.3
4	2.000	4	16.67	20	83.3	16.7	20	83.3	16.7
5	3.000	4	16.67	24	100.0	0.0	24	100.0	0.0

B	T	H	N	L	G	OTHER	UNQUAL	ANAL	READ	
0	0	0	0	0	0	0	24	24	24	VALUES
0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0			PERCENT

MIN	MAX	AMEAN	SD	GMEAN	GD	VALUES
0.500	3.00	1.625	0.74	1.474	1.58	24



Each increment (each X or | plotted) = 1.000 %

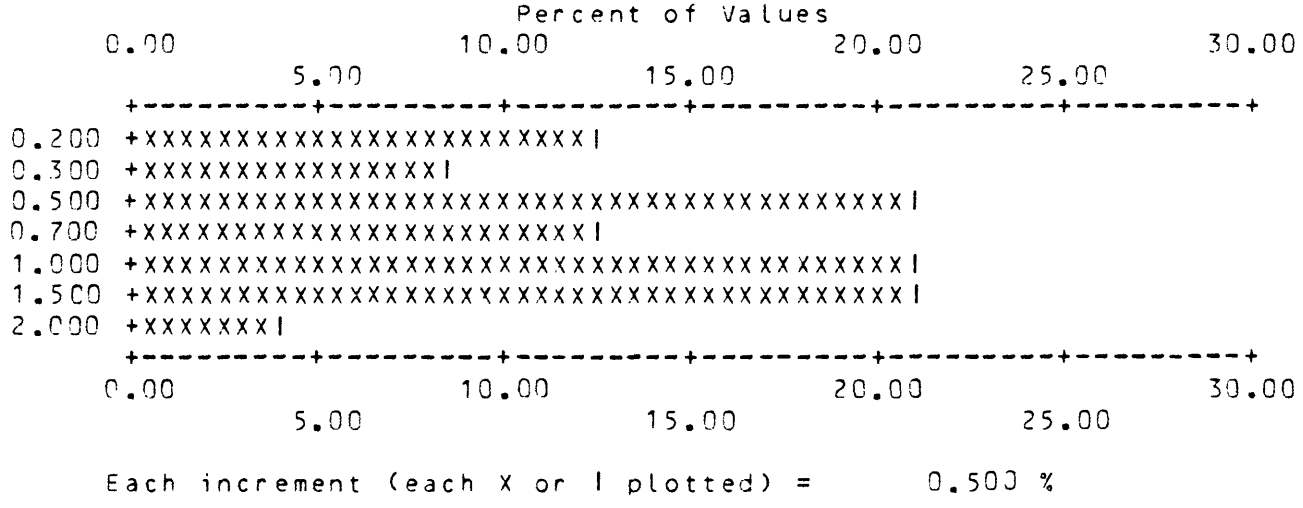
Table 10 Frequency tables and histograms for rock samples - (continued)

S-MG%

	VALUE	NO.	%	CUM.	CUM. %		TOT CUM	TOT CUM %	
1	0.200	3	12.50	3	12.5	87.5	3	12.5	87.5
2	0.300	2	8.33	5	20.8	79.2	5	20.8	79.2
3	0.500	5	20.83	10	41.7	58.3	10	41.7	58.3
4	0.700	3	12.50	13	54.2	45.8	13	54.2	45.8
5	1.000	5	20.83	18	75.0	25.0	18	75.0	25.0
6	1.500	5	20.83	23	95.8	4.2	23	95.8	4.2
7	2.000	1	4.17	24	100.0	0.0	24	100.0	0.0

B	T	H	N	L	G	OTHER	UNQUAL	ANAL	READ	
0	0	0	0	0	0	0	24	24	24	VALUES
0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0			PERCENT

MIN	MAX	AMEAN	SD	GMEAN	GD	VALUES
0.200	2.00	0.846	0.51	0.686	2.02	24



Each increment (each X or I plotted) = 0.500 %

Table 10 Frequency tables and histograms for rock samples - (continued)

S-TI%

	VALUE	NO.	%	CUM.	CUM. %		TOT CUM	TOT CUM %	
1	0.030	1	4.17	1	4.2	95.8	1	4.2	95.3
2	0.070	2	8.33	3	12.5	87.5	3	12.5	87.5
3	0.100	6	25.00	9	37.5	62.5	9	37.5	62.5
4	0.150	6	25.00	15	62.5	37.5	15	62.5	37.5
5	0.200	8	33.33	23	95.8	4.2	23	95.8	4.2
6	0.300	1	4.17	24	100.0	0.0	24	100.0	0.0

B	T	H	N	L	G	OTHER	UNQUAL	ANAL	READ	
0	0	0	0	0	0	0	24	24	24	VALUES
0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0			PERCENT

MIN	MAX	AMEAN	SD	GMEAN	GD	VALUES
0.030	0.30	0.149	0.06	0.135	1.64	24

Percent of Values

```
          0.00                  20.00                  40.00                  60.00
                    10.00                  30.00                  50.00
           +---------+---------+---------+---------+---------+---------+
0.030      +XXXI
0.050      +
0.070      +XXXXXXXI
0.100      +XXXXXXXXXXXXXXXXXXXXXXXXI
0.150      +XXXXXXXXXXXXXXXXXXXXXXXXI
0.200      +XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXI
0.300      +XXXI
           +---------+---------+---------+---------+---------+---------+
          0.00                  20.00                  40.00                  60.00
                    10.00                  30.00                  50.00
```

Each increment (each X or I plotted) = 1.000 %

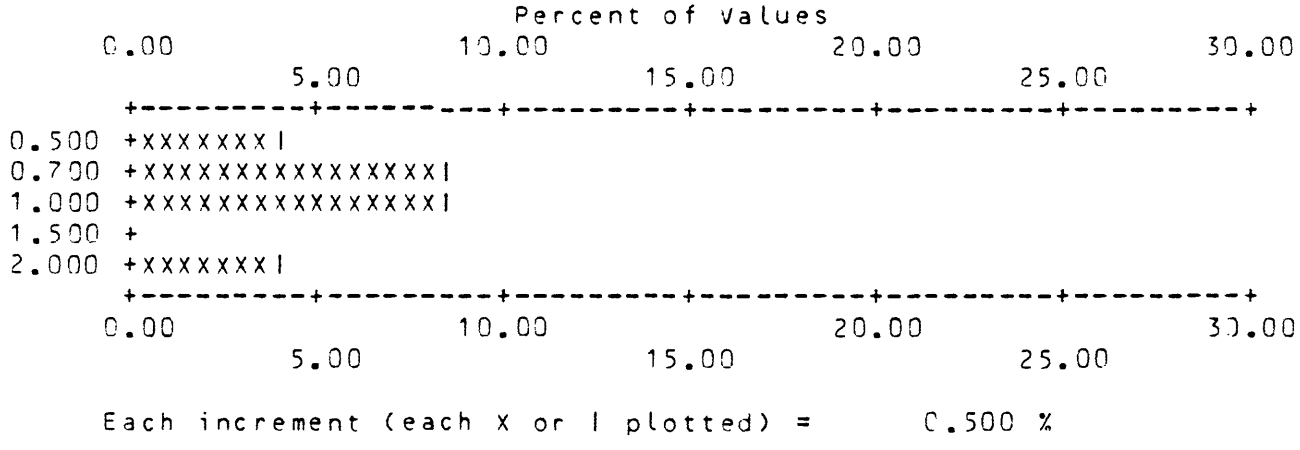
Table 10 Frequency tables and histograms for rock samples - (continued)

S-AG

	VALUE	NO.	%	CUM.	CUM. %		TOT CUM	TOT CUM %	
1	0.500	1	4.17	1	4.2	95.8	19	79.2	20.3
2	0.700	2	8.33	3	12.5	87.5	21	87.5	12.5
3	1.000	2	8.33	5	20.8	79.2	23	95.8	4.2
4	2.000	1	4.17	6	25.0	75.0	24	100.0	0.0

B	T	H	N	L	G	OTHER	UNQUAL	ANAL	READ	
0	0	0	18	0	0	0	6	24	24	VALUES
0.0	0.0	0.0	75.0	0.0	0.0	0.0	25.0			PERCENT

MIN	MAX	AMEAN	SD	GMEAN	GD	VALUES
0.500	2.00	0.983	0.53	0.883	1.61	6



Each increment (each X or I plotted) = 0.500 %

Table 10 Frequency tables and histograms for rock samples - (continued)

S-3

	VALUE	NO.	%	CUM.	CUM. %		TOT CUM	TOT CUM %	
1	10.000	6	25.00	6	25.0	75.0	18	75.0	25.0
2	20.000	1	4.17	7	29.2	70.8	19	79.2	20.8
3	70.000	1	4.17	8	33.3	66.7	20	83.3	16.7
4	100.000	2	8.33	10	41.7	58.3	22	91.7	8.3
5	150.000	1	4.17	11	45.8	54.2	23	95.8	4.2
6	300.000	1	4.17	12	50.0	50.0	24	100.0	0.0

B	T	H	N	L	G	OTHER	UNQUAL	ANAL	READ	
0	0	0	2	10	0	0	12	24	24	VALUES
0.0	0.0	0.0	8.3	41.7	0.0	0.0	50.0			PERCENT

MIN	MAX	AMEAN	SD	GMEAN	GD	VALUES
10.000	300.00	66.667	87.94	30.428	3.71	12

Percent of Values

```
          0.00                10.00                20.00                30.00
                    5.00                15.00                25.00
           +---------+---------+---------+---------+---------+---------+
  10.000  +XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXI
  15.000  +
  20.000  +XXXXXXXI
  30.000  +
  50.000  +
  70.000  +XXXXXXXI
 100.000  +XXXXXXXXXXXXXXXXI
 150.000  +XXXXXXXI
 200.000  +
 300.000  +XXXXXXXI
           +---------+---------+---------+---------+---------+---------+
          0.00                10.00                20.00                30.00
                    5.00                15.00                25.00
```

Each increment (each X or I plotted) = 0.500 %

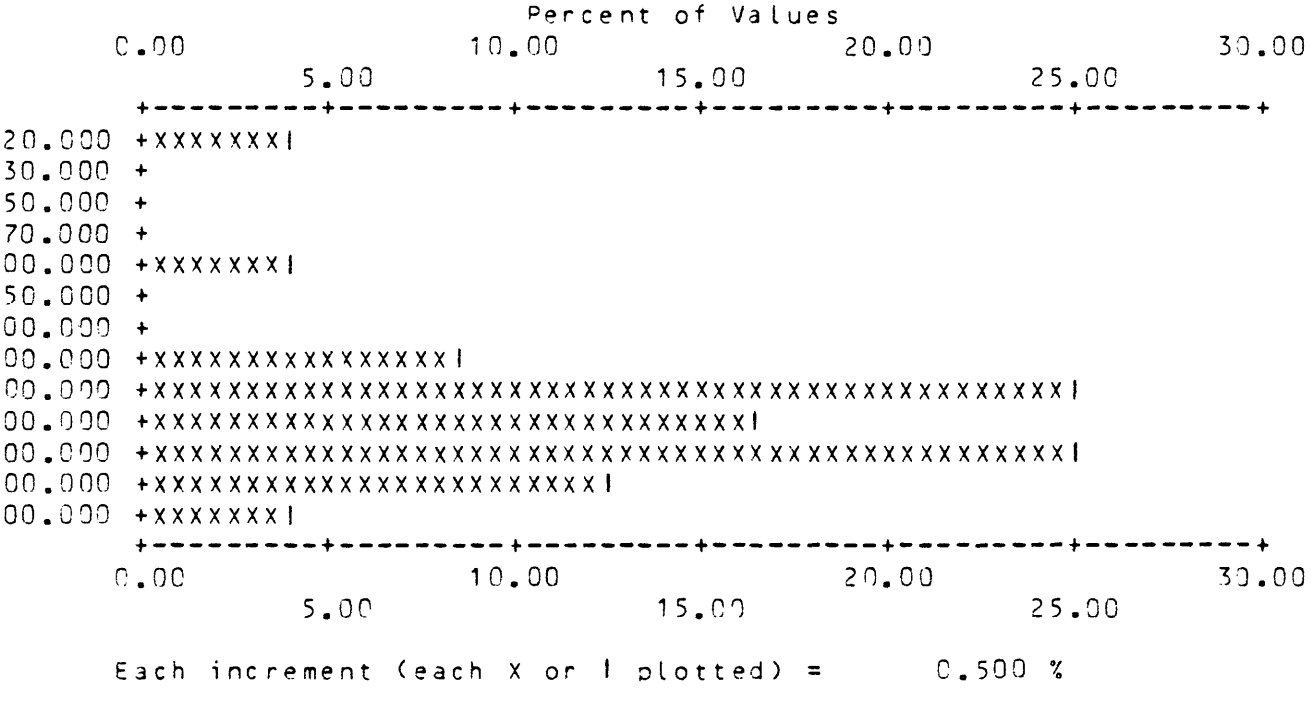
Table 10 Frequency tables and histograms for rock samples - (continued)

S-84

	VALUE	NO.	%	CUM.	CUM. %		TOT CUM	TOT CUM %	
1	20.000	1	4.17	1	4.2	95.8	1	4.2	95.8
2	100.000	1	4.17	2	8.3	91.7	2	8.3	91.7
3	300.000	2	8.33	4	16.7	83.3	4	16.7	83.3
4	500.000	6	25.00	10	41.7	58.3	10	41.7	58.3
5	700.000	4	16.67	14	58.3	41.7	14	58.3	41.7
6	1000.000	6	25.00	20	83.3	16.7	20	83.3	16.7
7	1500.000	3	12.50	23	95.8	4.2	23	95.8	4.2
8	2000.000	1	4.17	24	100.0	0.0	24	100.0	0.0

B	T	H	N	L	G	OTHER	UNQUAL	ANAL	READ	
0	0	0	0	0	0	0	24	24	24	VALUES
0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0			PERCENT

MIN	MAX	AMEAN	SD	GMEAN	GD	VALUES
20.000	2000.00	792.500	481.26	599.031	2.63	24



Each increment (each X or I plotted) = 0.500 %

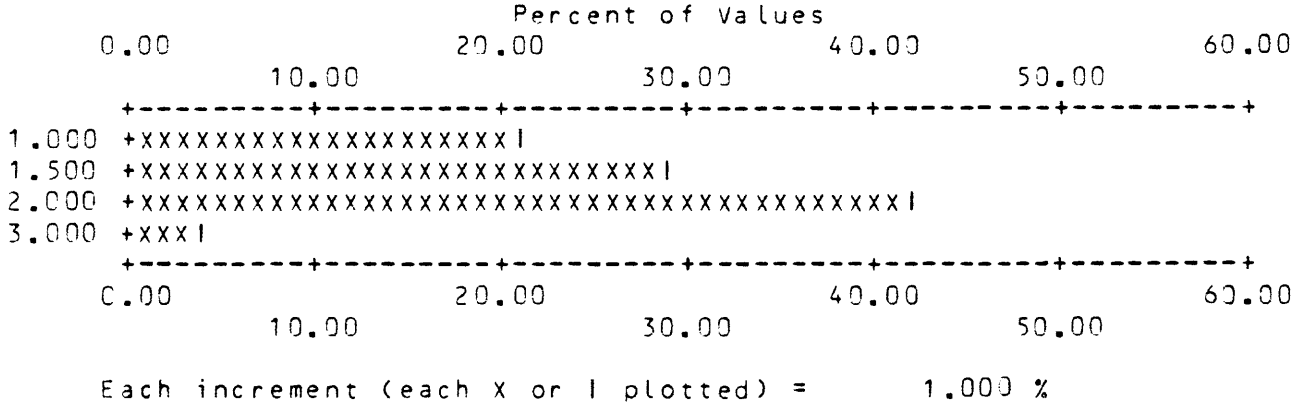
Table 10 Frequency tables and histograms for rock samples - (continued)

S-BE

	VALUE	NO.	%	CUM.	CUM. %	TOT CUM	TOT CUM %	
1	1.000	5	20.83	5	20.8	79.2	6	25.0	75.0
2	1.500	7	29.17	12	50.0	50.0	13	54.2	45.8
3	2.000	10	41.67	22	91.7	8.3	23	95.8	4.2
4	3.000	1	4.17	23	95.8	4.2	24	100.0	0.0

B	T	H	N	L	G	OTHER	UNQUAL	ANAL	READ	
0	0	0	0	1	0	0	23	24	24	VALUES
0.0	0.0	0.0	0.0	4.2	0.0	0.0	95.8			PERCENT

MIN	MAX	AMEAN	SD	GMEAN	GD	VALUES
1.000	3.00	1.674	0.49	1.604	1.35	23



Each increment (each X or I plotted) = 1.000 %

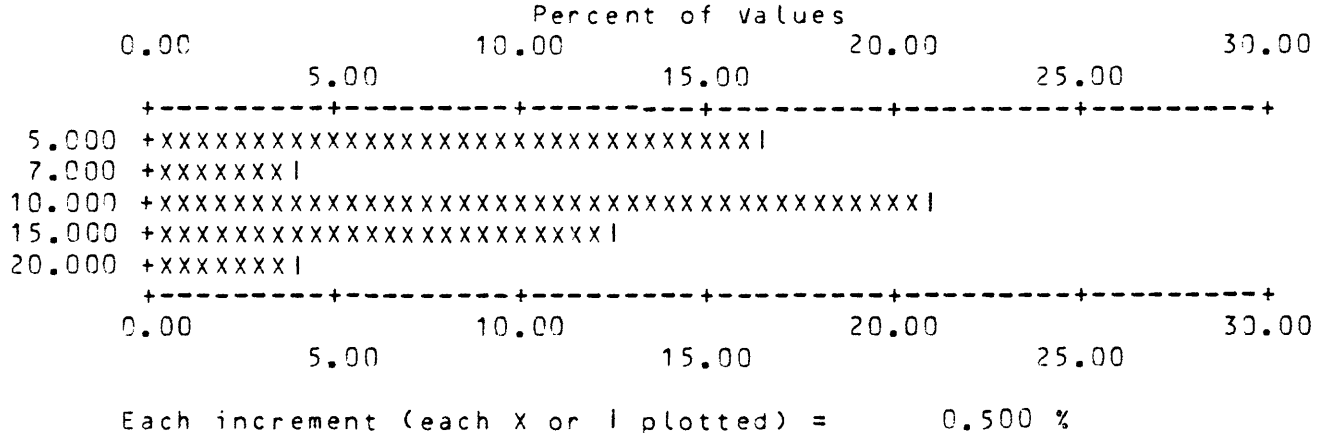
Table 10 Frequency tables and histograms for rock samples - (continued)

S-CO

	VALUE	NO.	%	CUM.	CUM. %		TOT CUM	TOT CUM %	
1	5.000	4	16.67	4	16.7	83.3	14	58.3	41.7
2	7.000	1	4.17	5	20.8	79.2	15	62.5	37.5
3	10.000	5	20.83	10	41.7	58.3	20	83.3	16.7
4	15.000	3	12.50	13	54.2	45.8	23	95.8	4.2
5	20.000	1	4.17	14	58.3	41.7	24	100.0	0.0

B	T	H	N	L	G	OTHER	UNQUAL	ANAL	READ	
0	0	0	6	4	0	0	14	24	24	VALUES
0.0	0.0	0.0	25.0	16.7	0.0	0.0	58.3			PERCENT

MIN	MAX	AMEAN	SD	GMEAN	GD	VALUES
5.000	20.00	10.143	4.67	9.166	1.61	14



Each increment (each X or I plotted) = 0.500 %

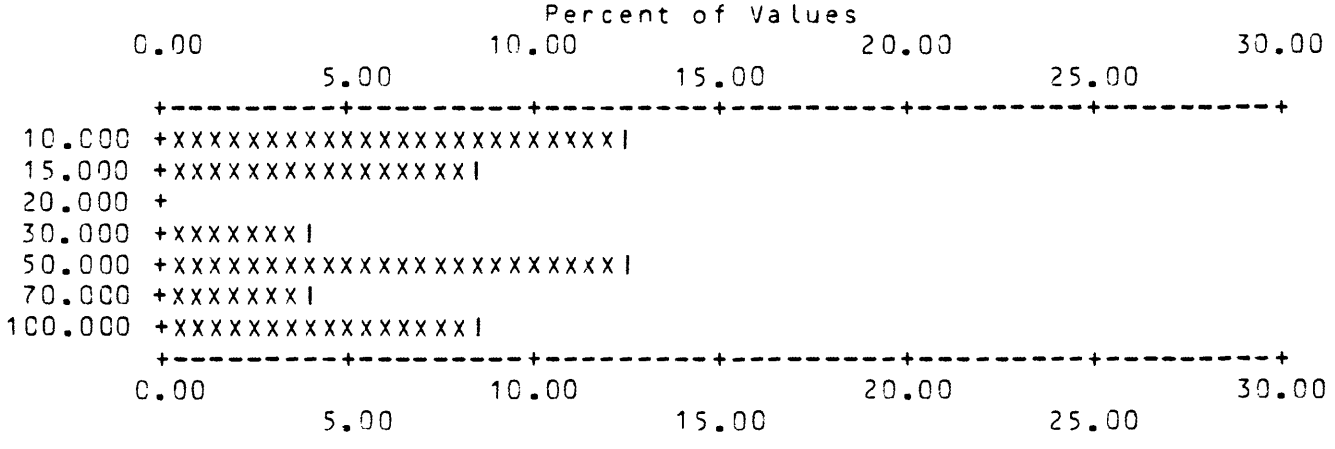
Table 10 Frequency tables and histograms for rock samples - (continued)

S-CR

	VALUE	NO.	%	CUM.	CUM. %		TOT CUM	TOT CUM %	
1	10.000	3	12.50	3	12.5	87.5	15	62.5	37.5
2	15.000	2	8.33	5	20.8	79.2	17	70.8	29.2
3	30.000	1	4.17	6	25.0	75.0	18	75.0	25.0
4	50.000	3	12.50	9	37.5	62.5	21	87.5	12.5
5	70.000	1	4.17	10	41.7	58.3	22	91.7	8.3
6	100.000	2	8.33	12	50.0	50.0	24	100.0	0.0

B	T	H	N	L	G	OTHER	UNQUAL	ANAL	READ	
0	0	0	2	10	0	0	12	24	24	VALUES
0.0	0.0	0.0	8.3	41.7	0.0	0.0	50.0			PERCENT

MIN	MAX	AMEAN	SD	GMEAN	GD	VALUES
10.000	100.00	42.500	33.54	30.265	2.47	12



Each increment (each X or I plotted) = 0.500 %

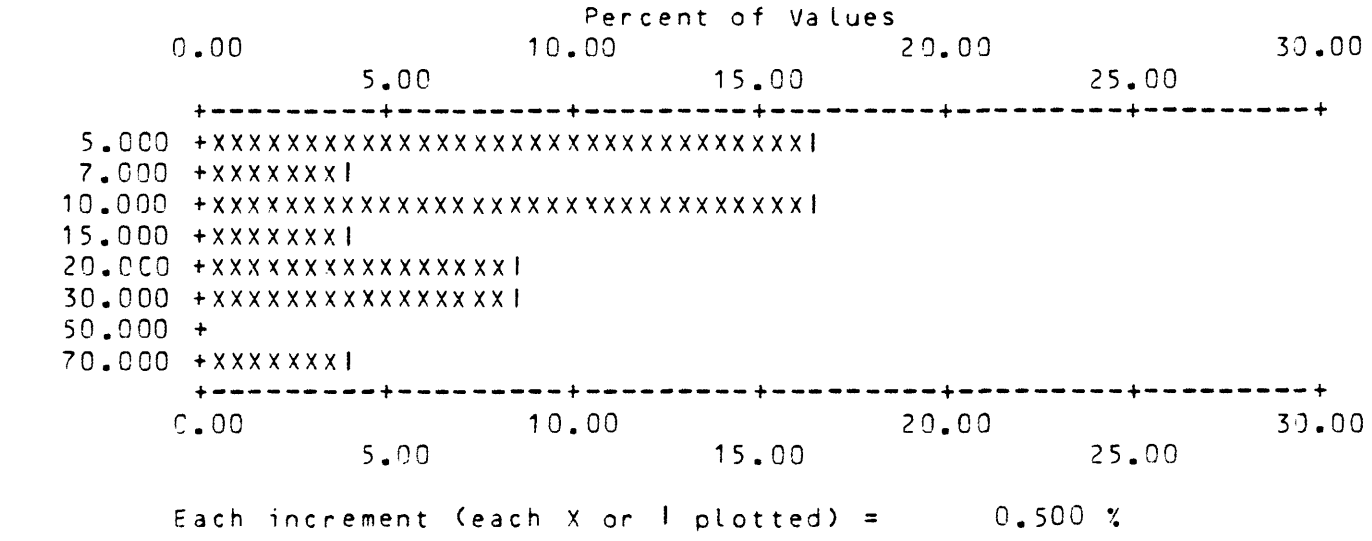
Table 10 Frequency tables and histograms for rock samples - (continued)

S-CU

	VALUE	NO.	%	CUM.	CUM. %		TOT CUM	TOT CUM %	
1	5.000	4	16.67	4	16.7	83.3	13	54.2	45.8
2	7.000	1	4.17	5	20.8	79.2	14	58.3	41.7
3	10.000	4	16.67	9	37.5	62.5	18	75.0	25.0
4	15.000	1	4.17	10	41.7	58.3	19	79.2	20.8
5	20.000	2	8.33	12	50.0	50.0	21	87.5	12.5
6	30.000	2	8.33	14	58.3	41.7	23	95.8	4.2
7	70.000	1	4.17	15	62.5	37.5	24	100.0	0.0

B	T	H	N	L	G	OTHER	UNQUAL	ANAL	READ	
0	0	0	0	9	0	0	15	24	24	VALUES
0.0	0.0	0.0	0.0	37.5	0.0	0.0	62.5			PERCENT

MIN	MAX	AMEAN	SD	GMEAN	GD	VALUES
5.000	70.00	16.800	16.99	12.057	2.21	15



Each increment (each X or I plotted) = 0.500 %

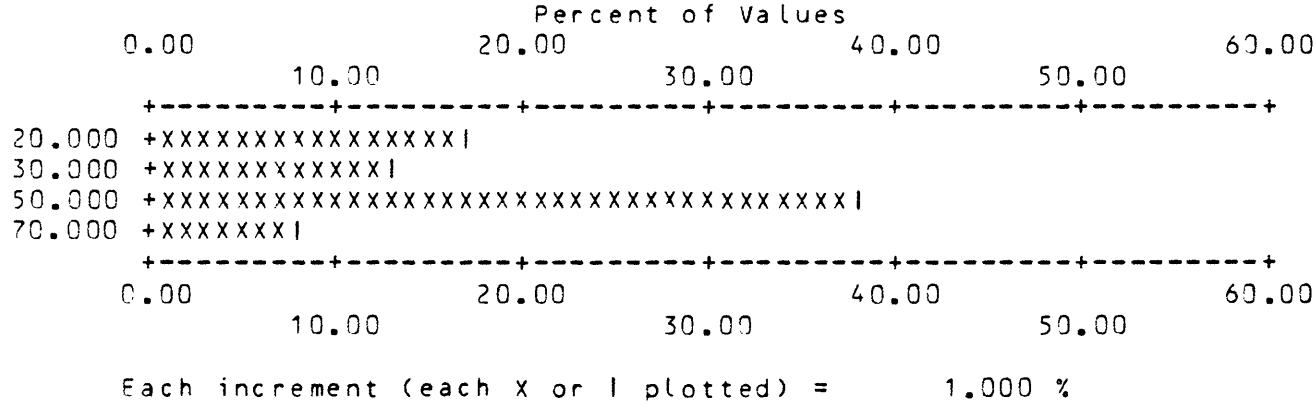
Table 10 Frequency tables and histograms for rock samples - (continued)

S-LA

	VALUE	NO.	%	CUM.	CUM. %		TOT CUM	TOT CUM %	
1	20.000	4	16.67	4	16.7	83.3	10	41.7	58.3
2	30.000	3	12.50	7	29.2	70.8	13	54.2	45.8
3	50.000	9	37.50	16	66.7	33.3	22	91.7	8.3
4	70.000	2	8.33	18	75.0	25.0	24	100.0	0.0

B	T	H	N	L	G	OTHER	UNQUAL	ANAL	READ	
0	0	0	0	6	0	0	18	24	24	VALUES
0.0	0.0	0.0	0.0	25.0	0.0	0.0	75.0			PERCENT

MIN	MAX	AMEAN	SD	GMEAN	GD	VALUES
20.000	70.00	42.222	16.29	38.887	1.55	18



S-MN

	VALUE	NO.	%	CUM.	CUM. %		TOT CUM	TOT CUM %	
1	100.000	1	4.17	1	4.2	95.8	1	4.2	95.8
2	200.000	5	20.83	6	25.0	75.0	6	25.0	75.0
3	300.000	5	20.83	11	45.8	54.2	11	45.8	54.2
4	500.000	12	50.00	23	95.8	4.2	23	95.8	4.2
5	700.000	1	4.17	24	100.0	0.0	24	100.0	0.0

B	T	H	N	L	G	OTHER	UNQUAL	ANAL	READ	
0	0	0	0	0	0	0	24	24	24	VALUES
0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0			PERCENT

MIN	MAX	AMEAN	SD	GMEAN	GD	VALUES
100.000	700.00	387.500	154.11	352.219	1.61	24

```
                              Percent of Values
          0.00                20.00               40.00               60.00
                    10.00               30.00               50.00
          +---------+---------+---------+---------+---------+---------+
 100.000  +XXXI
 150.000  +
 200.000  +XXXXXXXXXXXXXXXXXXXXI
 300.000  +XXXXXXXXXXXXXXXXXXXXI
 500.000  +XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXI
 700.000  +XXXI
          +---------+---------+---------+---------+---------+---------+
          0.00                20.00               40.00               60.00
                    10.00               30.00               50.00

          Each increment (each X or I plotted) =      1.000 %
```

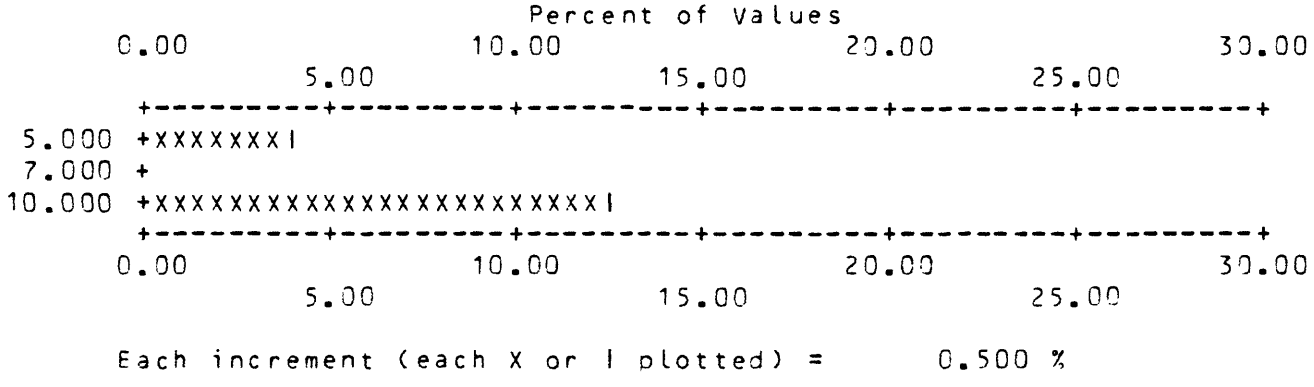
Table 10 Frequency tables and histograms for rock samples - (continued)

S-MO

	VALUE	NO.	%	CUM.	CUM. %	TOT CUM	TOT CUM %	
1	5.000	1	4.17	1	4.2	95.8	21	87.5	12.5
2	10.000	3	12.50	4	16.7	83.3	24	100.0	0.0

B	T	H	N	L	G	OTHER	UNQUAL	ANAL	READ	
0	0	0	20	0	0	0	4	24	24	VALUES
0.0	0.0	0.0	83.3	0.0	0.0	0.0	16.7			PERCENT

MIN	MAX	AMEAN	SD	GMEAN	GD	VALUES
5.000	10.00	8.750	2.50	8.409	1.41	4



Each increment (each X or I plotted) = 0.500 %

Table 10 Frequency tables and histograms for rock samples - (continued)

S-NB

NO UNQUALIFIED VALUES FOUND

B	T	H	N	L	G	OTHER	UNQUAL	ANAL	READ	
0	0	0	14	10	0	0	0	24	24	VALUES
0.0	0.0	0.0	58.3	41.7	0.0	0.0	0.0			PERCENT

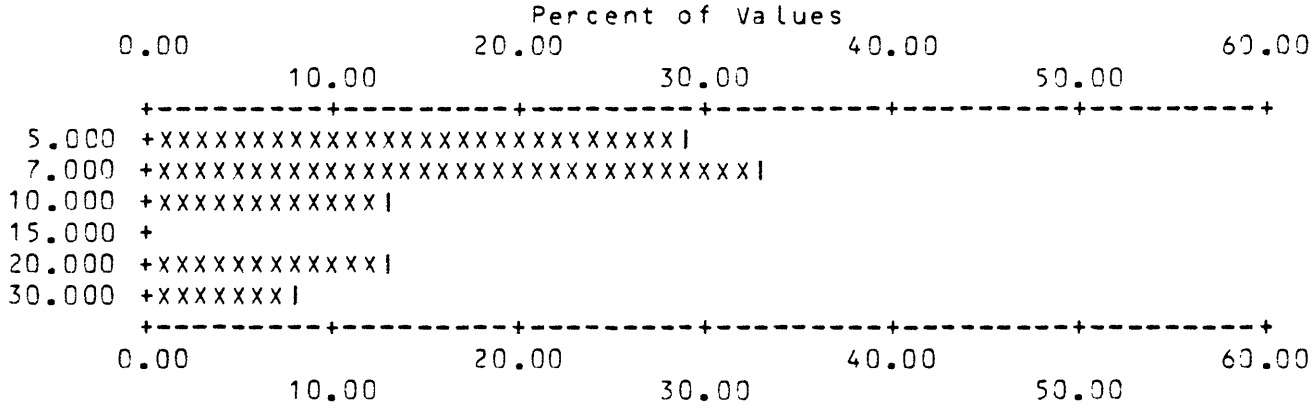
Table 10 Frequency tables and histograms for rock samples - (continued)

S-NI

	VALUE	NO.	%	CUM.	CUM. %		TOT CUM	TOT CUM %	
1	5.000	7	29.17	7	29.2	70.8	8	33.3	66.7
2	7.000	8	33.33	15	62.5	37.5	16	66.7	33.3
3	10.000	3	12.50	18	75.0	25.0	19	79.2	20.8
4	20.000	3	12.50	21	87.5	12.5	22	91.7	8.3
5	30.000	2	8.33	23	95.8	4.2	24	100.0	0.0

B	T	H	N	L	G	OTHER	UNQUAL	ANAL	READ	
0	0	0	0	1	0	0	23	24	24	VALUES
0.0	0.0	0.0	0.0	4.2	0.0	0.0	95.8			PERCENT

MIN	MAX	AMEAN	SD	GMEAN	GD	VALUES
5.000	30.00	10.478	7.81	8.615	1.81	23



Each increment (each X or I plotted) = 1.000 %

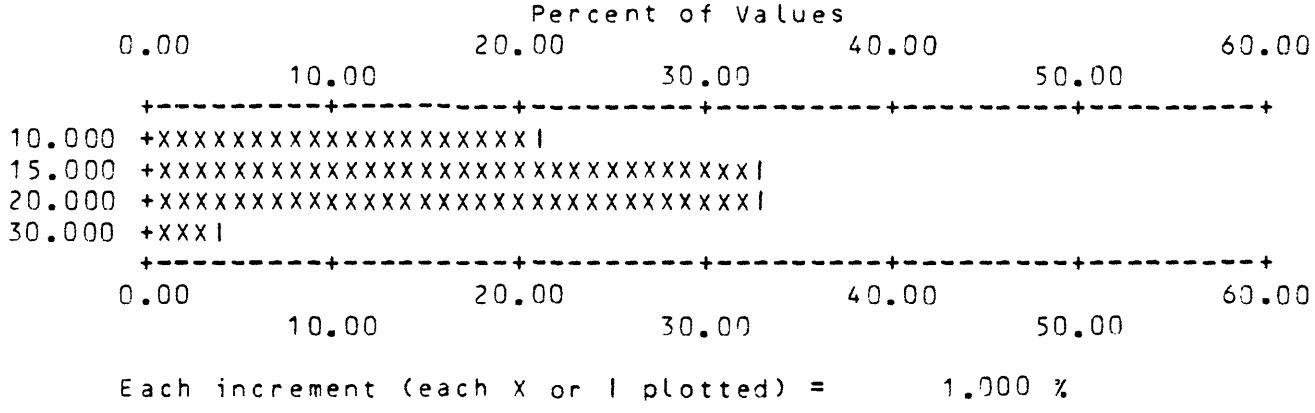
Table 10 Frequency tables and histograms for rock samples - (continued)

S-PB

	VALUE	NO.	%	CUM.	CUM. %		TOT CUM	TOT CUM %	
1	10.000	5	20.83	5	20.8	79.2	7	29.2	70.3
2	15.000	8	33.33	13	54.2	45.8	15	62.5	37.5
3	20.000	8	33.33	21	87.5	12.5	23	95.8	4.2
4	30.000	1	4.17	22	91.7	8.3	24	100.0	0.0

B	T	H	N	L	G	OTHER	UNQUAL	ANAL	READ	
0	0	0	1	1	0	0	22	24	24	VALUES
0.0	0.0	0.0	4.2	4.2	0.0	0.0	91.7			PERCENT

MIN	MAX	AMEAN	SD	GMEAN	GD	VALUES
10.000	30.00	16.364	4.92	15.674	1.35	22



Each increment (each X or I plotted) = 1.000 %

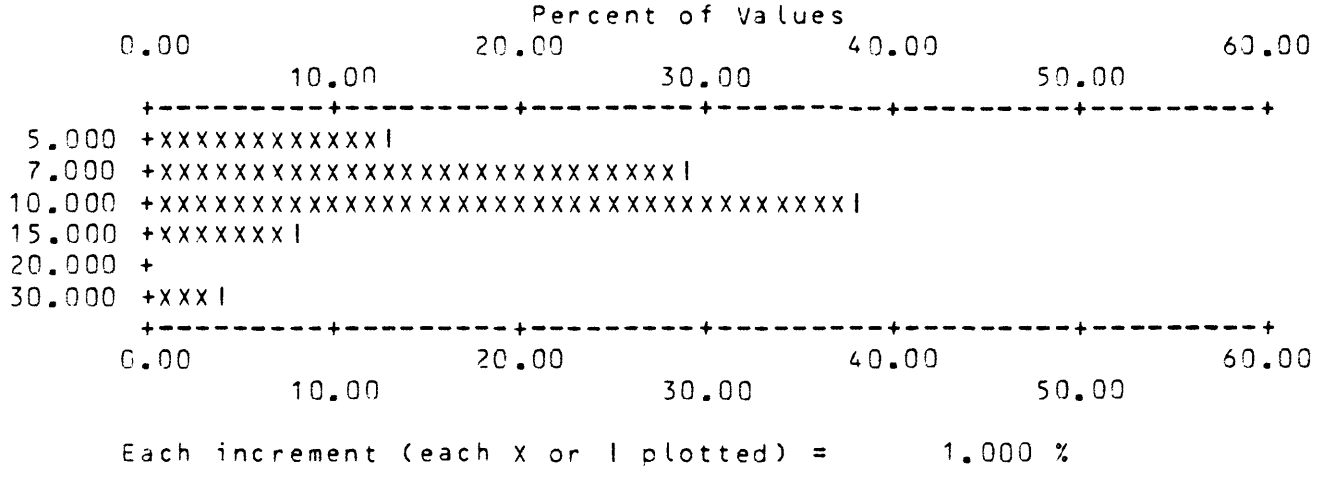
Table 10 Frequency tables and histograms for rock samples - (continued)

S-SC

	VALUE	NO.	%	CUM.	CUM. %		TOT CUM	TOT CUM %	
1	5.000	3	12.50	3	12.5	87.5	5	20.8	79.2
2	7.000	7	29.17	10	41.7	58.3	12	50.0	50.0
3	10.000	9	37.50	19	79.2	20.8	21	87.5	12.5
4	15.000	2	8.33	21	87.5	12.5	23	95.8	4.2
5	30.000	1	4.17	22	91.7	8.3	24	100.0	0.0

B	T	H	N	L	G	OTHER	UNQUAL	ANAL	READ	
0	0	0	0	2	0	0	22	24	24	VALUES
0.0	0.0	0.0	0.0	8.3	0.0	0.0	91.7		.	PERCENT

MIN	MAX	AMEAN	SD	GMEAN	GD	VALUES
5.000	30.00	9.727	5.28	8.858	1.51	22



Each increment (each X or I plotted) = 1.000 %

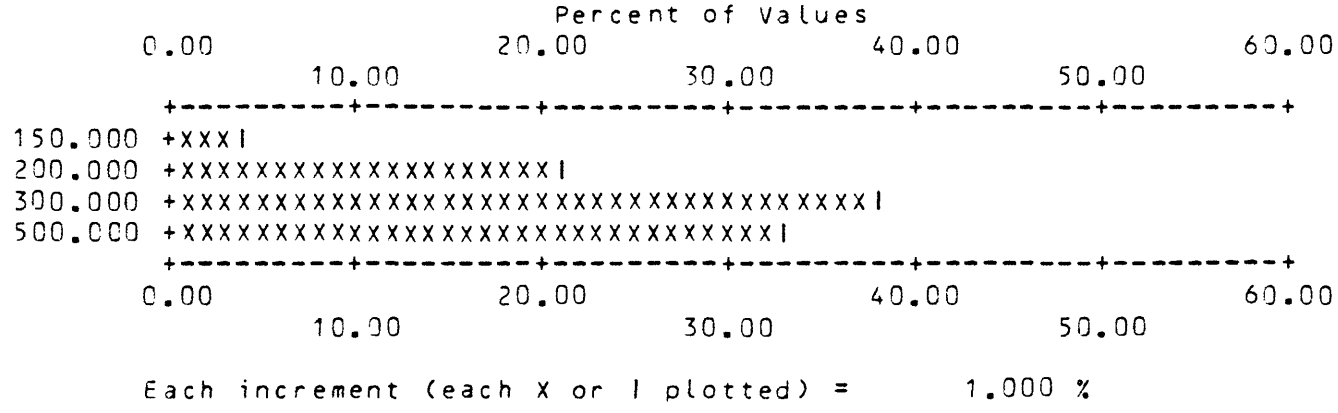
Table 10 Frequency tables and histograms for rock samples - (continued)

S-SR

	VALUE	NO.	%	CUM.	CUM. %		TOT CUM	TOT CUM %	
1	150.000	1	4.17	1	4.2	95.8	2	8.3	91.7
2	200.000	5	20.83	6	25.0	75.0	7	29.2	70.8
3	300.000	9	37.50	15	62.5	37.5	16	66.7	33.3
4	500.000	8	33.33	23	95.8	4.2	24	100.0	0.0

B	T	H	N	L	G	OTHER	UNQUAL	ANAL	READ	
0	0	0	0	1	0	0	23	24	24	VALUES
0.0	0.0	0.0	0.0	4.2	0.0	0.0	95.8			PERCENT

MIN	MAX	AMEAN	SD	GMEAN	GD	VALUES
150.000	500.00	341.304	126.72	318.359	1.47	23



Each increment (each X or I plotted) = 1.000 %

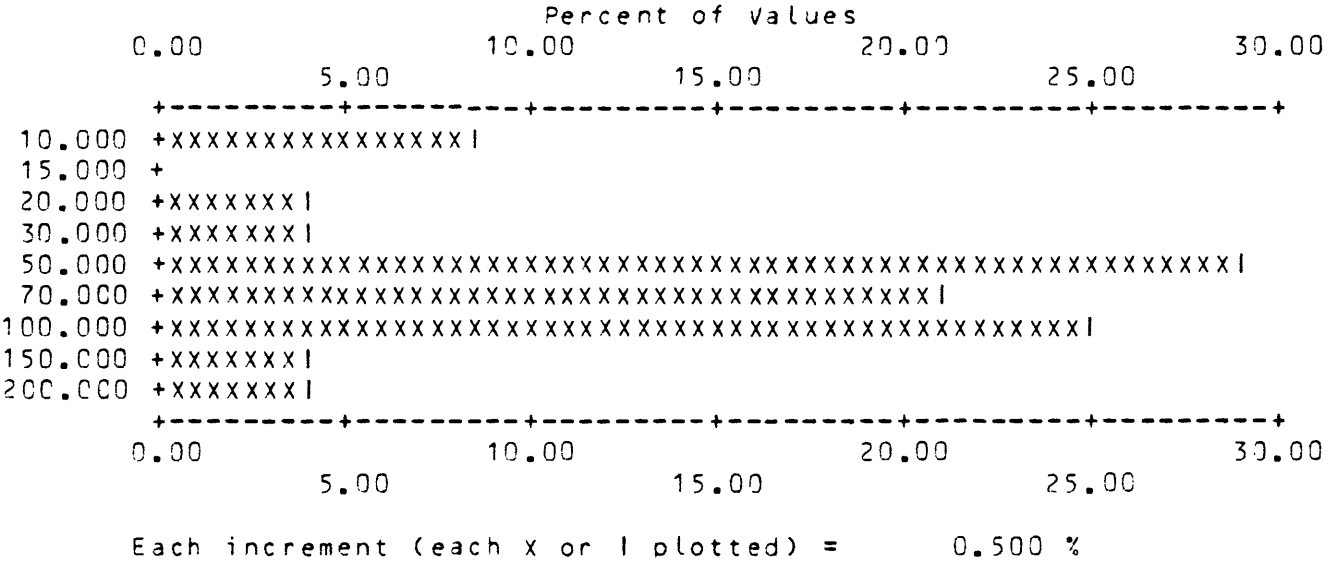
Table 10 Frequency tables and histograms for rock samples - (continued)

S-V

	VALUE	NO.	%	CUM.	CUM. %		TOT CUM	TOT CUM %	
1	10.000	2	8.33	2	8.3	91.7	2	8.3	91.7
2	20.000	1	4.17	3	12.5	87.5	3	12.5	87.5
3	30.000	1	4.17	4	16.7	83.3	4	16.7	83.3
4	50.000	7	29.17	11	45.8	54.2	11	45.8	54.2
5	70.000	5	20.83	16	66.7	33.3	16	66.7	33.3
6	100.000	6	25.00	22	91.7	8.3	22	91.7	8.3
7	150.000	1	4.17	23	95.8	4.2	23	95.8	4.2
8	200.000	1	4.17	24	100.0	0.0	24	100.0	0.0

B	T	H	N	L	G	OTHER	UNQUAL	ANAL	READ	
0	0	0	0	0	0	0	24	24	24	VALUES
0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0			PERCENT

MIN	MAX	AMEAN	SD	GMEAN	GD	VALUES
10.000	200.00	71.667	43.10	58.286	2.08	24



Each increment (each X or I plotted) = 0.500 %

Table 10 Frequency tables and histograms for rock samples - (continued)

S-W

NO UNQUALIFIED VALUES FOUND

B	T	H	N	L	G	OTHER	UNQUAL	ANAL	READ	
0	0	0	23	1	0	0	0	24	24	VALUES
0.0	0.0	0.0	95.8	4.2	0.0	0.0	0.0			PERCENT

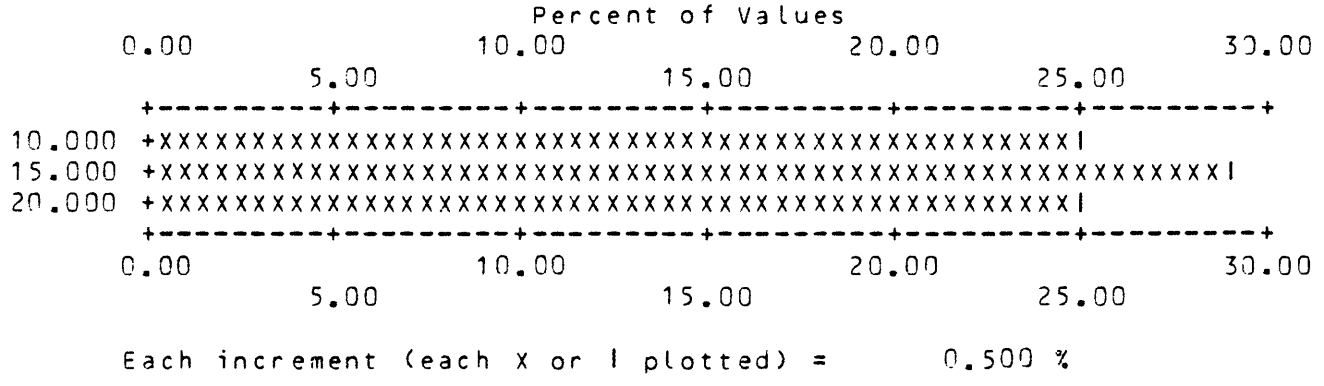
Table 10 Frequency tables and histograms for rock samples - (continued)

S-Y

	VALUE	NO.	%	CUM.	CUM. %		TOT CUM	TOT CUM %	
1	10.000	6	25.00	6	25.0	75.0	11	45.8	54.2
2	15.000	7	29.17	13	54.2	45.8	18	75.0	25.0
3	20.000	6	25.00	19	79.2	20.8	24	100.0	0.0

B	T	H	N	L	G	OTHER	UNQUAL	ANAL	READ	
0	0	0	0	5	0	0	19	24	24	VALUES
0.0	0.0	0.0	0.0	20.8	0.0	0.0	79.2			PERCENT

MIN	MAX	AMEAN	SD	GMEAN	GD	VALUES
10.000	20.00	15.000	4.08	14.452	1.33	19



Each increment (each X or I plotted) = 0.500 %

Table 10 Frequency tables and histograms for rock samples - (continued)

S-ZN

NO UNQUALIFIED VALUES FOUND

B	T	H	N	L	G	OTHER	UNQUAL	ANAL	READ	
0	0	0	23	1	0	0	0	24	24	VALUES
0.0	0.0	0.0	95.8	4.2	0.0	0.0	0.0			PERCENT

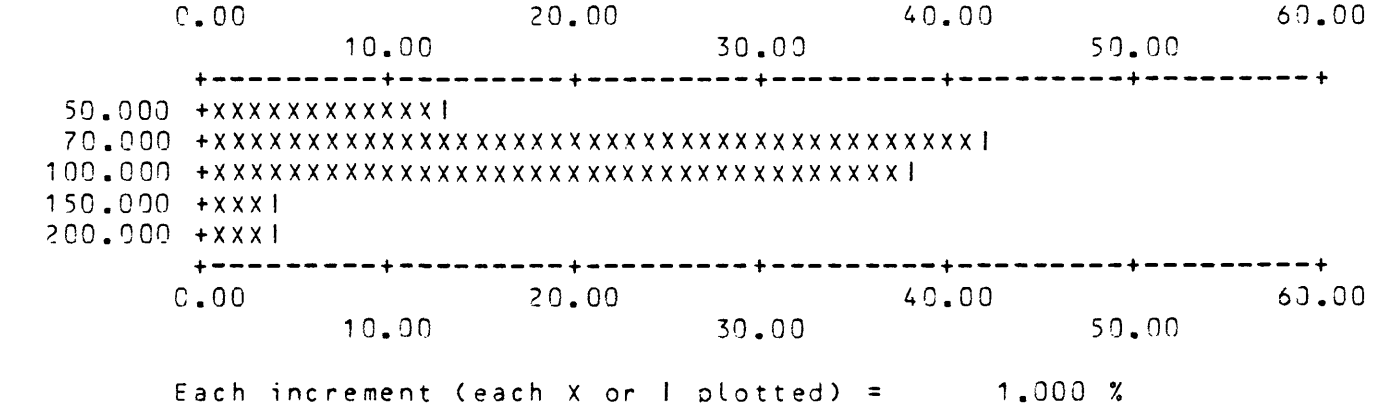
Table 10 Frequency tables and histograms for rock samples - (continued)

S-ZR

	VALUE	NO.	%	CUM.	CUM. %		TOT CUM	TOT CUM %	
1	50.000	3	12.50	3	12.5	87.5	3	12.5	87.5
2	70.000	10	41.67	13	54.2	45.8	13	54.2	45.8
3	100.000	9	37.50	22	91.7	8.3	22	91.7	8.3
4	150.000	1	4.17	23	95.8	4.2	23	95.8	4.2
5	200.000	1	4.17	24	100.0	0.0	24	100.0	0.0

B	T	H	N	L	G	OTHER	UNQUAL	ANAL	READ	
0	0	0	0	0	0	0	24	24	24	VALUES
0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0			PERCENT

MIN	MAX	AMEAN	SD	GMEAN	GD	VALUES
50.000	200.00	87.500	33.13	82.739	1.39	24



Each increment (each X or I plotted) = 1.000 %

Table 10 Frequency tables and histograms for rock samples - (continued)

AA-AU-T

	VALUE	NO.	%	CUM.	CUM. %		TOT CUM	TOT CUM %	
1	0.002	1	4.17	1	4.2	95.8	19	79.2	20.8
2	0.005	1	4.17	2	8.3	91.7	20	83.3	16.7
3	0.007	2	8.33	4	16.7	83.3	22	91.7	8.3
4	0.020	1	4.17	5	20.8	79.2	23	95.8	4.2
5	0.030	1	4.17	6	25.0	75.0	24	100.0	0.0

B	T	H	N	L	G	OTHER	UNQUAL	ANAL	READ	
0	0	0	16	2	0	0	6	24	24	VALUES
0.0	0.0	0.0	66.7	8.3	0.0	0.0	25.0			PERCENT

MIN	MAX	AMEAN	SD	GMEAN	GD	VALUES
0.002	0.03	0.012	0.01	0.008	2.65	6

Percent of Values

```
          0.00                10.00                20.00                30.00
                    5.00                15.00                25.00
           +---------+---------+---------+---------+---------+---------+
0.002     +XXXXXXXI
0.003     +
0.005     +XXXXXXXI
0.007     +XXXXXXXXXXXXXXXXI
0.010     +
0.015     +
0.020     +XXXXXXXI
0.030     +XXXXXXXI
           +---------+---------+---------+---------+---------+---------+
          0.00                10.00                20.00                30.00
                    5.00                15.00                25.00
```

Each increment (each X or I plotted) = 0.500 %

Table 10 Frequency tables and histograms for rock samples - (continued)

AA-ZN-P

	VALUE	NO.	%	CUM.	CUM. %		TOT CUM	TOT CUM %	
1	5.000	1	4.17	1	4.2	95.8	1	4.2	95.8
2	15.000	1	4.17	2	8.3	91.7	2	8.3	91.7
3	20.000	4	16.67	6	25.0	75.0	6	25.0	75.0
4	30.000	10	41.67	16	66.7	33.3	16	66.7	33.3
5	50.000	4	16.67	20	83.3	16.7	20	83.3	16.7
6	70.000	3	12.50	23	95.8	4.2	23	95.8	4.2
7	100.000	1	4.17	24	100.0	0.0	24	100.0	0.0

B	T	H	N	L	G	OTHER	UNQUAL	ANAL	READ	
0	0	0	0	0	0	0	24	24	24	VALUES
0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0			PERCENT

MIN	MAX	AMEAN	SD	GMEAN	GD	VALUES
5.000	100.00	37.917	21.91	32.178	1.86	24

Percent of Values

```
          0.00                  20.00                  40.00                  60.00
                    10.00                  30.00                  50.00
           +---------+---------+---------+---------+---------+---------+
   5.000  +XXXI
   7.000  +
  10.000  +
  15.000  +XXXI
  20.000  +XXXXXXXXXXXXXXXXI
  30.000  +XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXI
  50.000  +XXXXXXXXXXXXXXXXI
  70.000  +XXXXXXXXXXXXI
 100.000  +XXXI
           +---------+---------+---------+---------+---------+---------+
          0.00                  20.00                  40.00                  60.00
                    10.00                  30.00                  50.00
```

Each increment (each X or I plotted) = 1.000 %

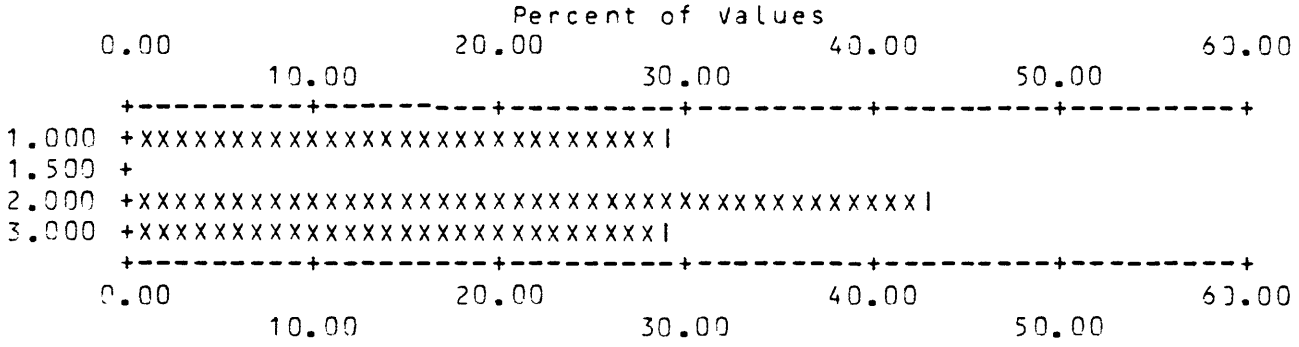
Table 10 Frequency tables and histograms for rock samples - (continued)

U-INST

	VALUE	NO.	%	CUM.	CUM. %		TOT CUM	TOT CUM %	
1	1.000	2	28.57	2	28.6	71.4	2	28.6	71.4
2	2.000	3	42.86	5	71.4	28.6	5	71.4	28.6
3	3.000	2	28.57	7	100.0	0.0	7	100.0	0.0

B	T	H	N	L	G	OTHER	UNQUAL	ANAL	READ	
17	0	0	0	0	0	0	7	7	24	VALUES
70.8	0.0	0.0	0.0	0.0	0.0	0.0	100.0			PERCENT

MIN	MAX	AMEAN	SD	GMEAN	GD	VALUES
1.000	3.00	2.000	0.82	1.842	1.58	7



Each increment (each X or I plotted) = 1.000 %

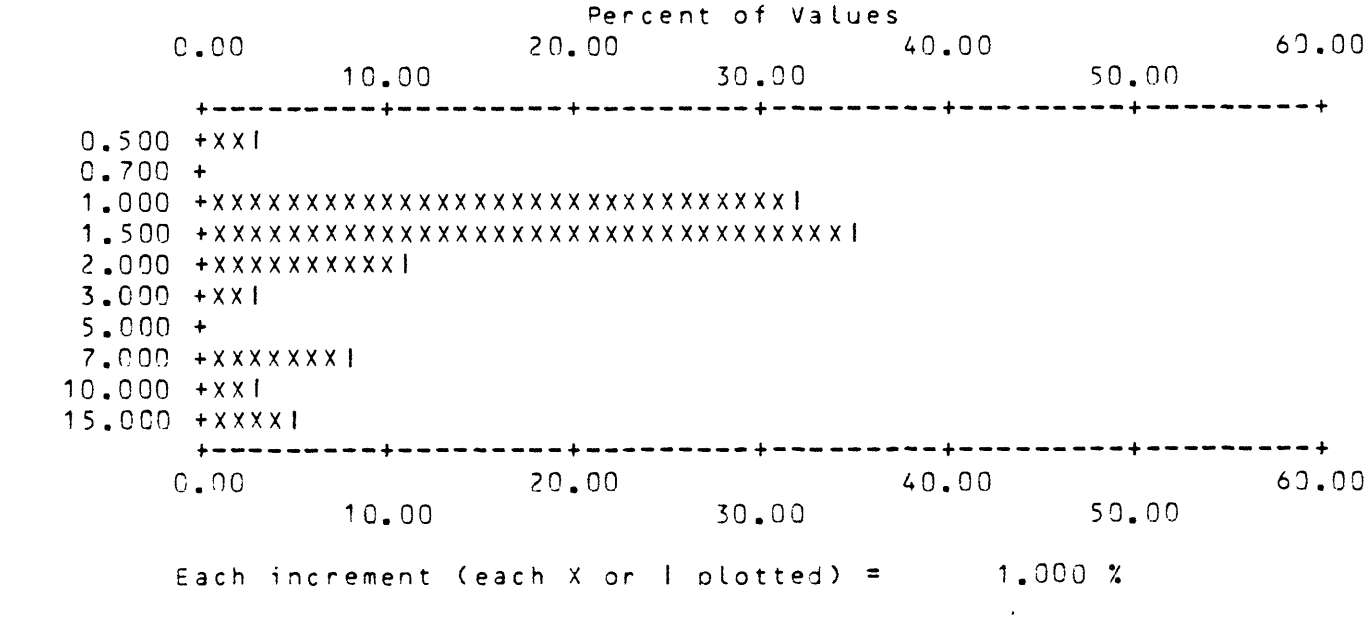
Table 11 Frequency tables and histograms for stream-sediment samples

S-CA%

	VALUE	NO.	%	CUM.	CUM. %		TOT CUM	TOT CUM %	
1	0.500	1	2.70	1	2.7	97.3	1	2.7	97.3
2	1.000	12	32.43	13	35.1	64.9	13	35.1	64.9
3	1.500	13	35.14	26	70.3	29.7	26	70.3	29.7
4	2.000	4	10.81	30	81.1	18.9	30	81.1	18.9
5	3.000	1	2.70	31	83.8	16.2	31	83.8	16.2
6	7.000	3	8.11	34	91.9	8.1	34	91.9	8.1
7	10.000	1	2.70	35	94.6	5.4	35	94.6	5.4
8	15.000	2	5.41	37	100.0	0.0	37	100.0	0.0

B	T	H	N	L	G	OTHER	UNQUAL	ANAL	READ	
0	0	0	0	0	0	0	37	37	37	VALUES
0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0			PERCENT

MIN	MAX	AMEAN	SD	GMEAN	GD	VALUES
0.500	15.00	2.811	3.62	1.813	2.26	37



Each increment (each X or I plotted) = 1.000 %

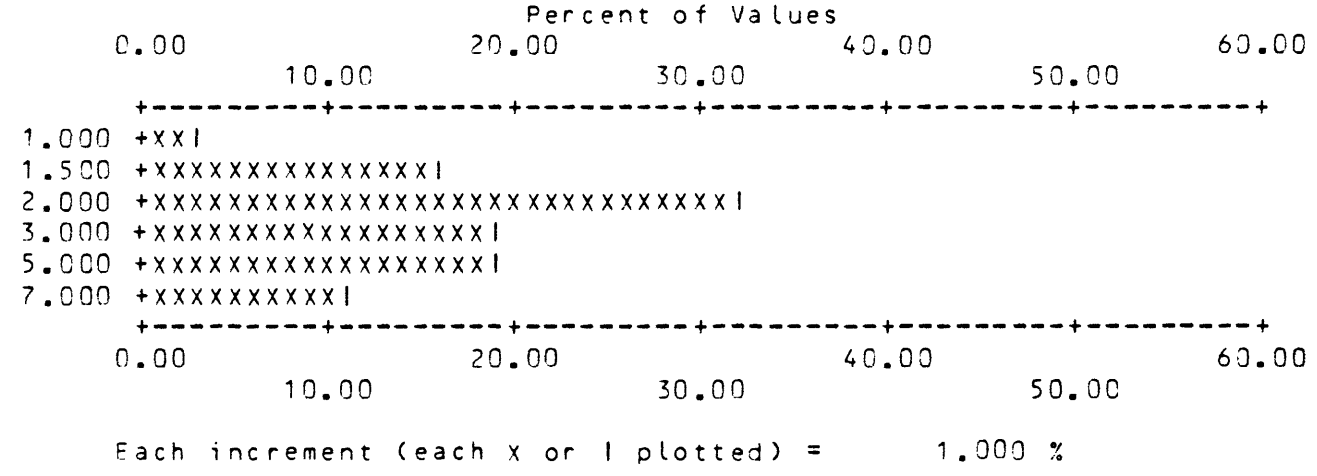
Table 11 Frequency tables and histograms for stream-sediment samples

S-FE%

	VALUE	NO.	%	CUM.	CUM. %		TOT CUM	TOT CUM %	
1	1.000	1	2.70	1	2.7	97.3	1	2.7	97.3
2	1.500	6	16.22	7	18.9	81.1	7	18.9	81.1
3	2.000	12	32.43	19	51.4	48.6	19	51.4	48.6
4	3.000	7	18.92	26	70.3	29.7	26	70.3	29.7
5	5.000	7	18.92	33	89.2	10.8	33	89.2	10.8
6	7.000	4	10.81	37	100.0	0.0	37	100.0	0.0

B	T	H	N	L	G	OTHER	UNQUAL	ANAL	READ	
0	0	0	0	0	0	0	37	37	37	VALUES
0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0			PERCENT

MIN	MAX	AMEAN	SD	GMEAN	GD	VALUES
1.000	7.00	3.189	1.83	2.755	1.72	37



Each increment (each X or I plotted) = 1.000 %

Table 11 Frequency tables and histograms for stream-sediment samples

S-MG%

	VALUE	NO.	%	CUM.	CUM. %		TOT CUM	TOT CUM %	
1	0.300	2	5.41	2	5.4	94.6	2	5.4	94.6
2	0.500	3	8.11	5	13.5	86.5	5	13.5	86.5
3	0.700	2	5.41	7	18.9	81.1	7	18.9	81.1
4	1.000	17	45.95	24	64.9	35.1	24	64.9	35.1
5	1.500	12	32.43	36	97.3	2.7	36	97.3	2.7
6	2.000	1	2.70	37	100.0	0.0	37	100.0	0.0

B	T	H	N	L	G	OTHER	UNQUAL	ANAL	READ	
0	0	0	0	0	0	0	37	37	37	VALUES
0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0			PERCENT

MIN	MAX	AMEAN	SD	GMEAN	GD	VALUES
0.300	2.00	1.095	0.39	1.010	1.56	37

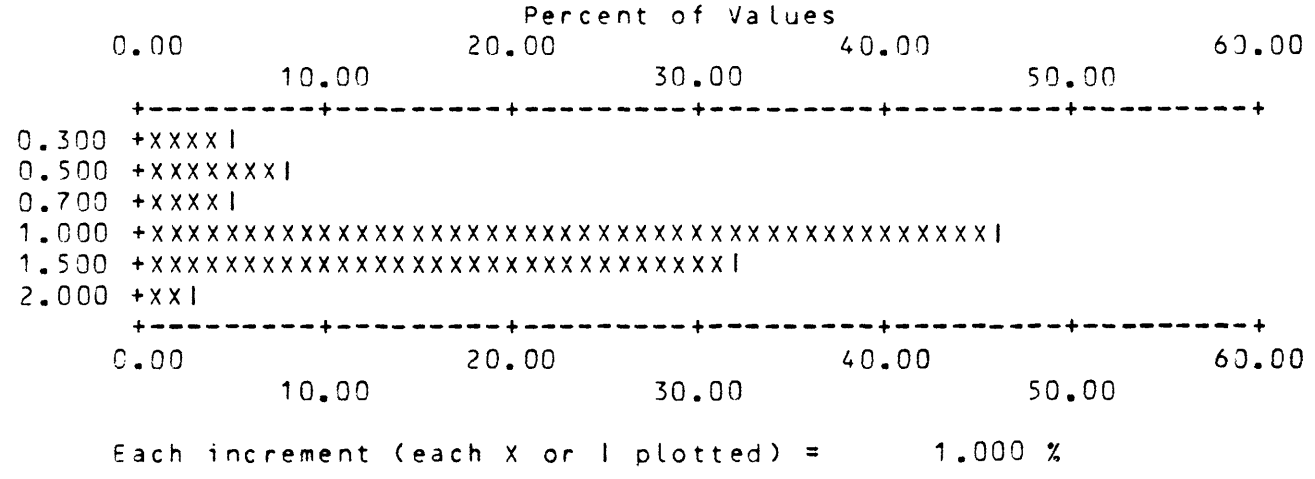


Table 11 Frequency tables and histograms for stream-sediment samples

S-TI%

	VALUE	NO.	%	CUM.	CUM. %		TOT CUM	TOT CUM %	
1	0.100	5	13.51	5	13.5	86.5	5	13.5	86.5
2	0.150	6	16.22	11	29.7	70.3	11	29.7	70.3
3	0.200	9	24.32	20	54.1	45.9	20	54.1	45.9
4	0.300	11	29.73	31	83.8	16.2	31	83.8	16.2
5	0.500	6	16.22	37	100.0	0.0	37	100.0	0.0

B	T	H	N	L	G	OTHER	UNQUAL	ANAL	READ	
0	0	0	0	0	0	0	37	37	37	VALUES
0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0			PERCENT

MIN	MAX	AMEAN	SD	GMEAN	GD	VALUES
0.100	0.50	0.257	0.13	0.227	1.65	37

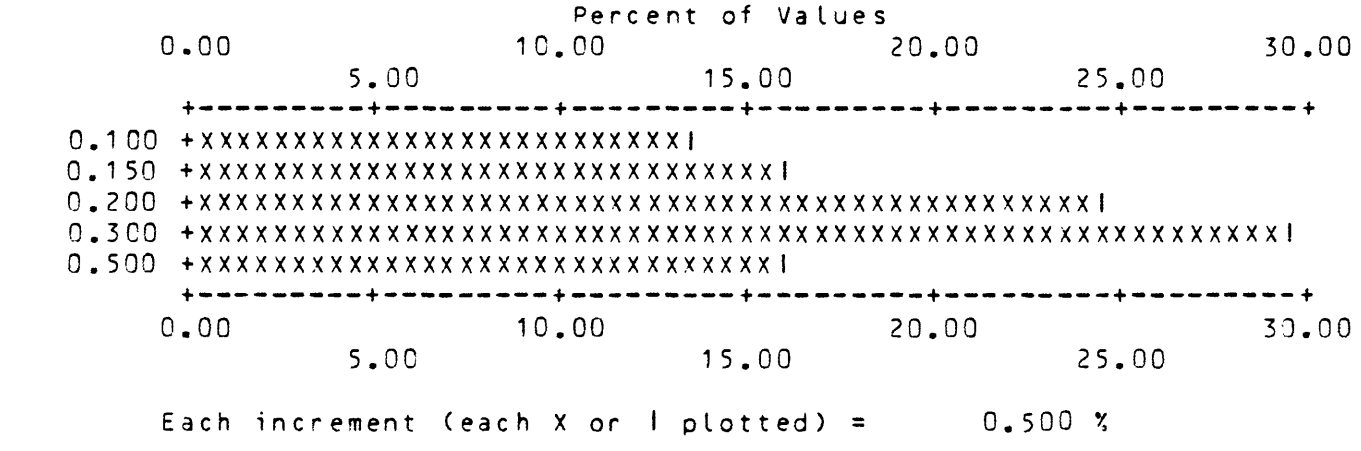


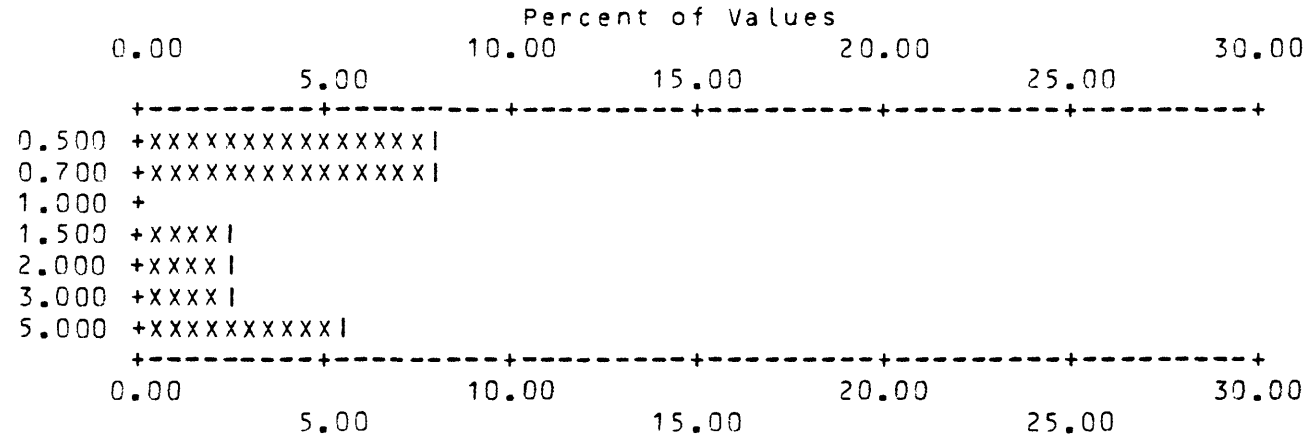
Table 11 Frequency tables and histograms for stream-sediment samples

S-AG

	VALUE	NO.	%	CUM.	CUM. %		TOT CUM	TOT CUM %	
1	0.500	3	8.11	3	8.1	91.9	29	78.4	21.6
2	0.700	3	8.11	6	16.2	83.8	32	86.5	13.5
3	1.500	1	2.70	7	18.9	81.1	33	89.2	10.8
4	2.000	1	2.70	8	21.6	78.4	34	91.9	8.1
5	3.000	1	2.70	9	24.3	75.7	35	94.6	5.4
6	5.000	2	5.41	11	29.7	70.3	37	100.0	0.0

B	T	H	N	L	G	OTHER	UNQUAL	ANAL	READ	
0	0	0	23	3	0	0	11	37	37	VALUES
0.0	0.0	0.0	62.2	8.1	0.0	0.0	29.7			PERCENT

MIN	MAX	AMEAN	SD	GMEAN	GD	VALUES
0.500	5.00	1.827	1.75	1.229	2.50	11



Each increment (each X or I plotted) = 0.500 %

Table 11 Frequency tables and histograms for stream-sediment samples

S-AU

	VALUE	NO.	%	CUM.	CUM. %	TOT CUM	TOT CUM %
1	10.000	1	2.70	1	2.7	97.3	37	100.0	0.0

B	T	H	N	L	G	OTHER	UNQUAL	ANAL	READ	
0	0	0	36	0	0	0	1	37	37	VALUES
0.0	0.0	0.0	97.3	0.0	0.0	0.0	2.7			PERCENT

MIN	MAX	AMEAN	SD	GMEAN	GD	VALUES
10.000	10.00	10.000	0.00	10.000	********	1

Percent of Values

```
          0.00                10.00                20.00                30.00
                    5.00                15.00                25.00
           +---------+---------+---------+---------+---------+---------+
10.000     +XXXXI
           +---------+---------+---------+---------+---------+---------+
          0.00                10.00                20.00                30.00
                    5.00                15.00                25.00
```

Each increment (each X or I plotted) = 0.500 %

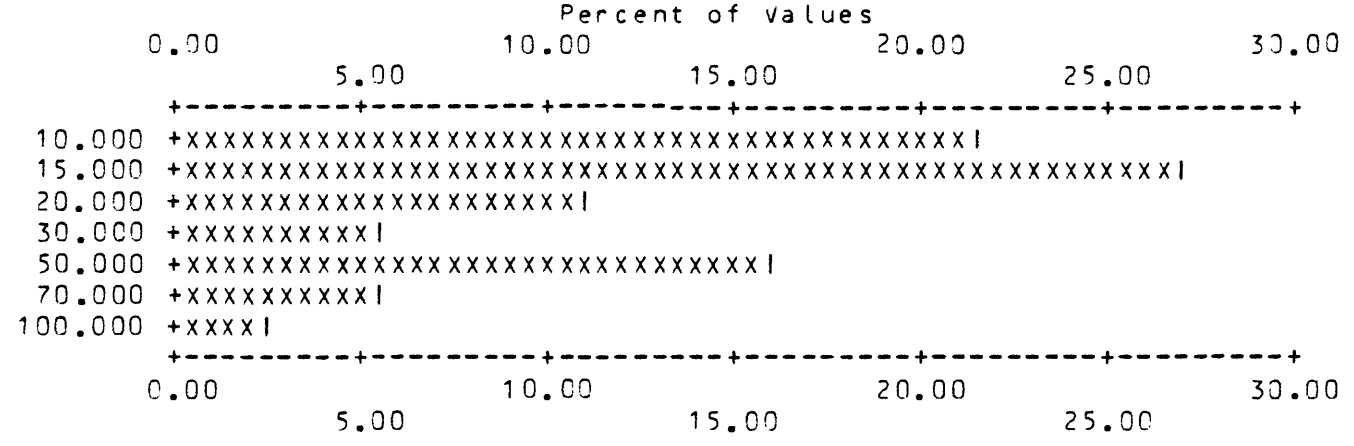
Table 11 Frequency tables and histograms for stream-sediment samoles

S-B

	VALUE	NO.	%	CUM.	CUM. %		TOT CUM	TOT CUM %	
1	10.000	8	21.62	8	21.6	78.4	12	32.4	67.6
2	15.000	10	27.03	18	48.6	51.4	22	59.5	40.5
3	20.000	4	10.81	22	59.5	40.5	26	70.3	29.7
4	30.000	2	5.41	24	64.9	35.1	28	75.7	24.3
5	50.000	6	16.22	30	81.1	18.9	34	91.9	8.1
6	70.000	2	5.41	32	86.5	13.5	36	97.3	2.7
7	100.000	1	2.70	33	89.2	10.8	37	100.0	0.0

B	T	H	N	L	G	OTHER	UNQUAL	ANAL	READ	
0	0	0	0	4	0	0	33	37	37	VALUES
0.0	0.0	0.0	0.0	10.8	0.0	0.0	89.2			PERCENT

MIN	MAX	AMEAN	SD	GMEAN	GD	VALUES
10.000	100.00	27.576	22.47	21.251	2.01	33



Each increment (each X or I plotted) = 0.500 %

Table 11 Frequency tables and histograms for stream-sediment samples

S-BA

	VALUE	NO.	%	CUM.	CUM. %		TOT CUM	TOT CUM %	
1	300.000	7	18.92	7	18.9	81.1	7	18.9	81.1
2	500.000	23	62.16	30	81.1	18.9	30	81.1	18.9
3	700.000	3	8.11	33	89.2	10.8	33	89.2	10.8
4	1000.000	3	8.11	36	97.3	2.7	36	97.3	2.7
5	1500.000	1	2.70	37	100.0	0.0	37	100.0	0.0

B	T	H	N	L	G	OTHER	UNQUAL	ANAL	READ	
0	0	0	0	0	0	0	37	37	37	VALUES
0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0			PERCENT

MIN	MAX	AMEAN	SD	GMEAN	GD	VALUES
300.000	1500.00	545.946	239.90	508.335	1.44	37

```
                            Percent of Values
          0.00                 20.72                  41.44                 62.16
                    10.36                 31.08                 51.80
           +---------+---------+---------+---------+---------+---------+
  300.000  +XXXXXXXXXXXXXXXXXI
  500.000  +XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXI
  700.000  +XXXXXXXI
 1000.000  +XXXXXXXI
 1500.000  +XXI
           +---------+---------+---------+---------+---------+---------+
          0.00                 20.72                  41.44                 62.16
                    10.36                 31.08                 51.80
```

Each increment (each X or I plotted) = 1.036 %

Table 11 Frequency tables and histograms for stream-sediment samples

S-BE

	VALUE	NO.	%	CUM.	CUM. %		TOT CUM	TOT CUM %	
1	1.000	1	2.70	1	2.7	97.3	1	2.7	97.3
2	1.500	6	16.22	7	18.9	81.1	7	18.9	81.1
3	2.000	23	62.16	30	81.1	18.9	30	81.1	18.9
4	3.000	2	5.41	32	86.5	13.5	32	86.5	13.5
5	5.000	1	2.70	33	89.2	10.8	33	89.2	10.3
6	7.000	2	5.41	35	94.6	5.4	35	94.6	5.4
7	10.000	2	5.41	37	100.0	0.0	37	100.0	0.0

B	T	H	N	L	G	OTHER	UNQUAL	ANAL	READ	
0	0	0	0	0	0	0	37	37	37	VALUES
0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0			PERCENT

MIN	MAX	AMEAN	SD	GMEAN	GD	VALUES
1.000	10.00	2.730	2.18	2.291	1.68	37

```
                              Percent of Values
        0.00                20.72                 41.44                 62.16
                  10.36                 31.08                 51.80
          +---------+---------+---------+---------+---------+---------+
   1.000  +XXI
   1.500  +XXXXXXXXXXXXXXXI
   2.000  +XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXI
   3.000  +XXXXI
   5.000  +XXI
   7.000  +XXXXI
  10.000  +XXXXI
          +---------+---------+---------+---------+---------+---------+
        0.00                20.72                 41.44                 62.16
                  10.36                 31.08                 51.80

        Each increment (each X or I plotted) =      1.036 %
```

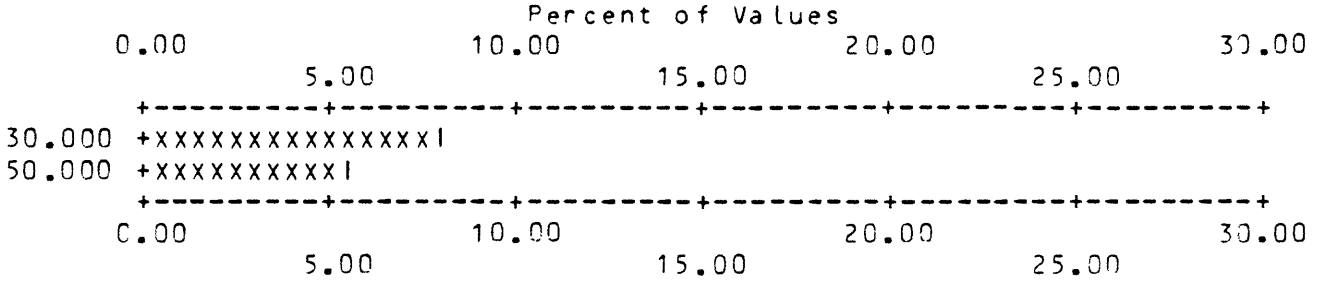
Table 11 Frequency tables and histograms for stream-sediment samples

S-BI

	VALUE	NO.	%	CUM.	CUM. %		TOT CUM	TOT CUM %	
1	30.000	3	8.11	3	8.1	91.9	35	94.6	5.4
2	50.000	2	5.41	5	13.5	86.5	37	100.0	0.0

B	T	H	N	L	G	OTHER	UNQUAL	ANAL	READ	
0	0	0	32	0	0	0	5	37	37	VALUES
0.0	0.0	0.0	86.5	0.0	0.0	0.0	13.5			PERCENT

MIN	MAX	AMEAN	SD	GMEAN	GD	VALUES
30.000	50.00	38.000	10.95	36.801	1.32	5



Each increment (each X or I plotted) = 0.500 %

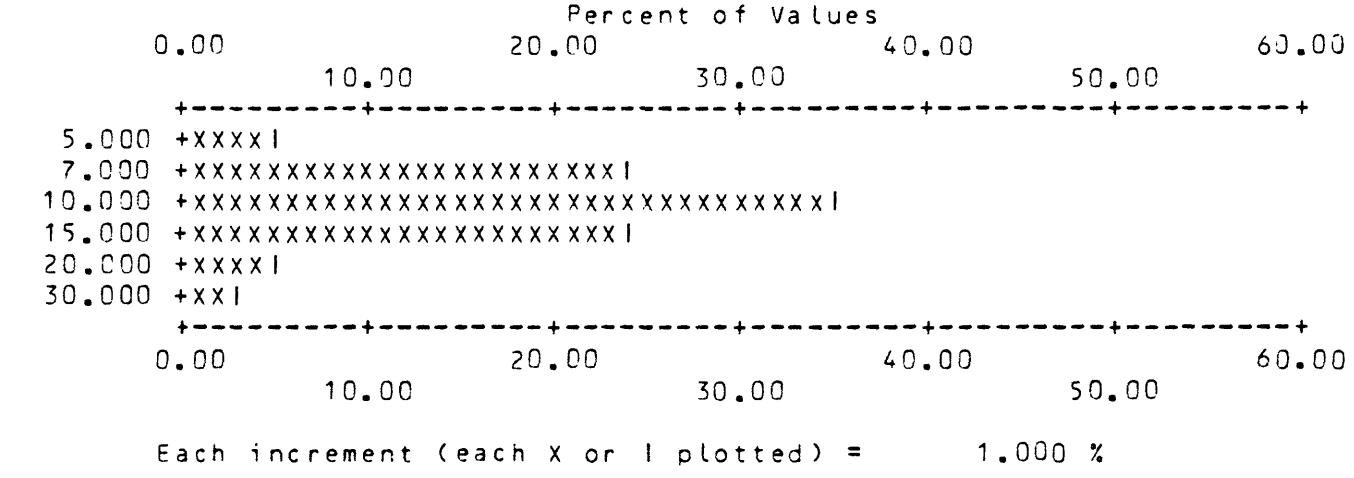
Table 11 Frequency tables and histograms for stream-sediment samples

S-CO

	VALUE	NO.	%	CUM.	CUM. %		TOT CUM	TOT CUM %	
1	5.000	2	5.41	2	5.4	94.6	3	8.1	91.9
2	7.000	9	24.32	11	29.7	70.3	12	32.4	67.6
3	10.000	13	35.14	24	64.9	35.1	25	67.6	32.4
4	15.000	9	24.32	33	89.2	10.8	34	91.9	8.1
5	20.000	2	5.41	35	94.6	5.4	36	97.3	2.7
6	30.000	1	2.70	36	97.3	2.7	37	100.0	0.0

B	T	H	N	L	G	OTHER	UNQUAL	ANAL	READ	
0	0	0	0	1	0	0	36	37	37	VALUES
0.0	0.0	0.0	0.0	2.7	0.0	0.0	97.3			PERCENT

MIN	MAX	AMEAN	SD	GMEAN	GD	VALUES
5.000	30.00	11.333	5.05	10.436	1.50	36



Each increment (each X or I plotted) = 1.000 %

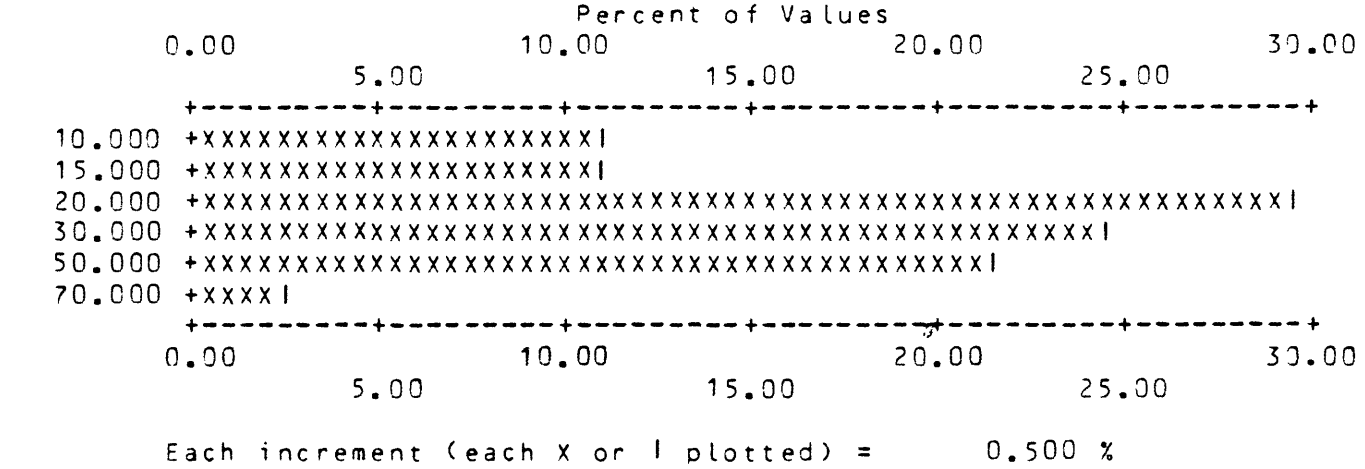
Table 11 Frequency tables and histograms for stream-sediment samples

S-CR

	VALUE	NO.	%	CUM.	CUM. %		TOT CUM	TOT CUM %	
1	10.000	4	10.81	4	10.8	89.2	4	10.8	89.2
2	15.000	4	10.81	8	21.6	78.4	8	21.6	78.4
3	20.000	11	29.73	19	51.4	48.6	19	51.4	48.6
4	30.000	9	24.32	28	75.7	24.3	28	75.7	24.3
5	50.000	8	21.62	36	97.3	2.7	36	97.3	2.7
6	70.000	1	2.70	37	100.0	0.0	37	100.0	0.0

B	T	H	N	L	G	OTHER	UNQUAL	ANAL	READ	
0	0	0	0	0	0	0	37	37	37	VALUES
0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0			PERCENT

MIN	MAX	AMEAN	SD	GMEAN	GD	VALUES
10.000	70.00	28.649	15.21	25.036	1.70	37



Each increment (each X or I plotted) = 0.500 %

Table 11 Frequency tables and histograms for stream-sediment samples

S-CU

	VALUE	NO.	%	CUM.	CUM. %		TOT CUM	TOT CUM %	
1	5.000	1	2.70	1	2.7	97.3	1	2.7	97.3
2	7.000	2	5.41	3	8.1	91.9	3	8.1	91.9
3	10.000	4	10.81	7	18.9	81.1	7	18.9	81.1
4	15.000	9	24.32	16	43.2	56.8	16	43.2	56.8
5	20.000	8	21.62	24	64.9	35.1	24	64.9	35.1
6	30.000	4	10.81	28	75.7	24.3	28	75.7	24.3
7	50.000	3	8.11	31	83.8	16.2	31	83.8	16.2
8	100.000	1	2.70	32	86.5	13.5	32	86.5	13.5
9	150.000	2	5.41	34	91.9	8.1	34	91.9	8.1
10	200.000	1	2.70	35	94.6	5.4	35	94.6	5.4
11	300.000	1	2.70	36	97.3	2.7	36	97.3	2.7
12	1000.000	1	2.70	37	100.0	0.0	37	100.0	0.0

B	T	H	N	L	G	OTHER	UNQUAL	ANAL	READ	
0	0	0	0	0	0	0	37	37	37	VALUES
0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0			PERCENT

MIN	MAX	AMEAN	SD	GMEAN	GD	VALUES
5.000	1000.00	68.216	169.12	26.267	3.09	37

```
                              Percent of Values
         0.00                 10.00                20.00                30.00
                    5.00                 15.00                25.00
          +---------+---------+---------+---------+---------+---------+
   5.000  +XXXX|
   7.000  +XXXXXXXXXX|
  10.000  +XXXXXXXXXXXXXXXXXXXXX|
  15.000  +XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX|
  20.000  +XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX|
  30.000  +XXXXXXXXXXXXXXXXXXXXX|
  50.000  +XXXXXXXXXXXXXXX|
  70.000  +
 100.000  +XXXX|
 150.000  +XXXXXXXXXX|
 200.000  +XXXX|
 300.000  +XXXX|
 500.000  +
 700.000  +
1000.000  +XXXX|
          +---------+---------+---------+---------+---------+---------+
         0.00                 10.00                20.00                30.00
                    5.00                 15.00                25.00

Each increment (each X or | plotted) =     0.500 %
```

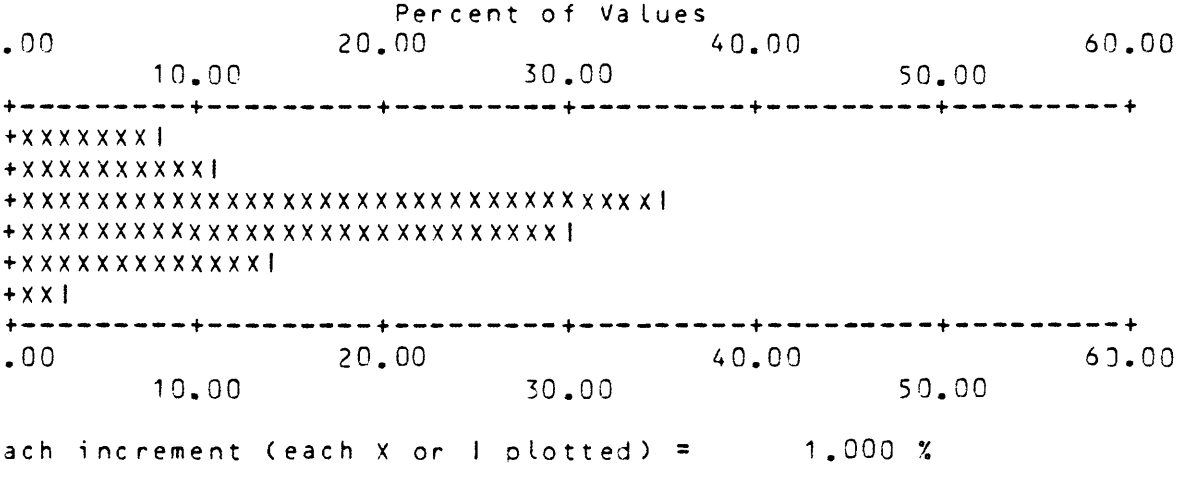
Table 11 Frequency tables and histograms for stream-sediment samples

S-LA

	VALUE	NO.	%	CUM.	CUM. %		TOT CUM	TOT CUM %	
1	20.000	3	8.11	3	8.1	91.9	3	8.1	91.9
2	30.000	4	10.81	7	18.9	81.1	7	18.9	81.1
3	50.000	13	35.14	20	54.1	45.9	20	54.1	45.9
4	70.000	11	29.73	31	83.8	16.2	31	83.8	16.2
5	100.000	5	13.51	36	97.3	2.7	36	97.3	2.7
6	150.000	1	2.70	37	100.0	0.0	37	100.0	0.0

B	T	H	N	L	G	OTHER	UNQUAL	ANAL	READ	
0	0	0	0	0	0	0	37	37	37	VALUES
0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0			PERCENT

MIN	MAX	AMEAN	SD	GMEAN	GD	VALUES
20.000	150.00	60.811	27.32	54.921	1.61	37



Each increment (each X or I plotted) = 1.000 %

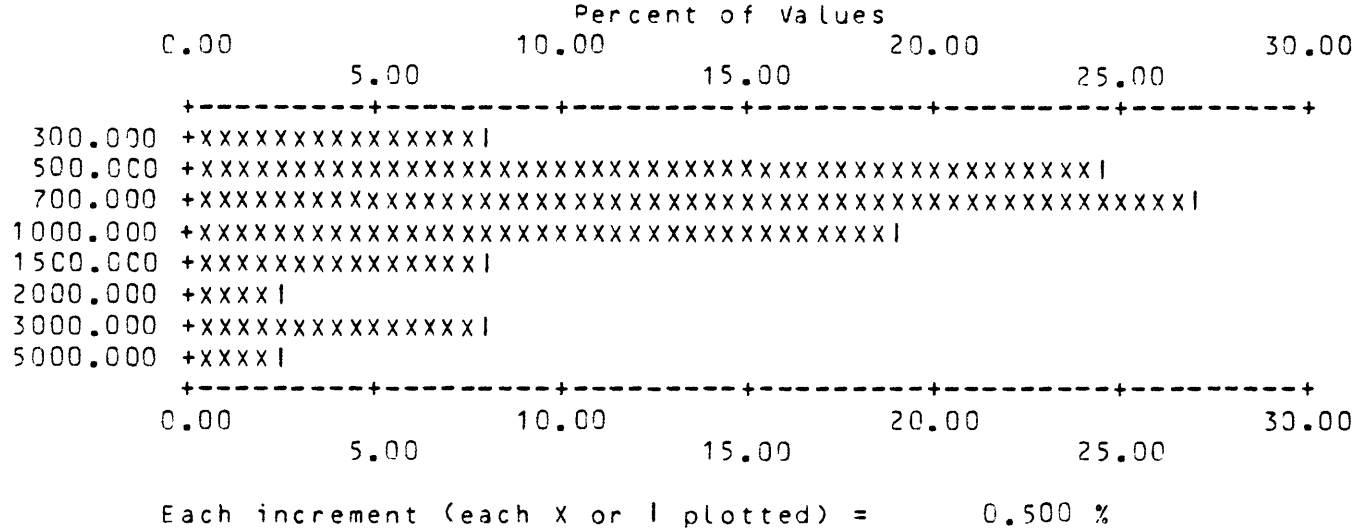
Table 11 Frequency tables and histograms for stream-sediment samples

S-MN

	VALUE	NO.	%	CUM.	CUM. %		TOT CUM	TOT CUM %	
1	300.000	3	8.11	3	8.1	91.9	3	8.1	91.9
2	500.000	9	24.32	12	32.4	67.6	12	32.4	67.6
3	700.000	10	27.03	22	59.5	40.5	22	59.5	40.5
4	1000.000	7	18.92	29	78.4	21.6	29	78.4	21.6
5	1500.000	3	8.11	32	86.5	13.5	32	86.5	13.5
6	2000.000	1	2.70	33	89.2	10.8	33	89.2	10.8
7	3000.000	3	8.11	36	97.3	2.7	36	97.3	2.7
8	5000.000	1	2.70	37	100.0	0.0	37	100.0	0.0

B	T	H	N	L	G	OTHER	UNQUAL	ANAL	READ	
0	0	0	0	0	0	0	37	37	37	VALUES
0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0			PERCENT

MIN	MAX	AMEAN	SD	GMEAN	GD	VALUES
300.000	5000.00	1078.378	973.86	836.577	1.95	37



Each increment (each X or I plotted) = 0.500 %

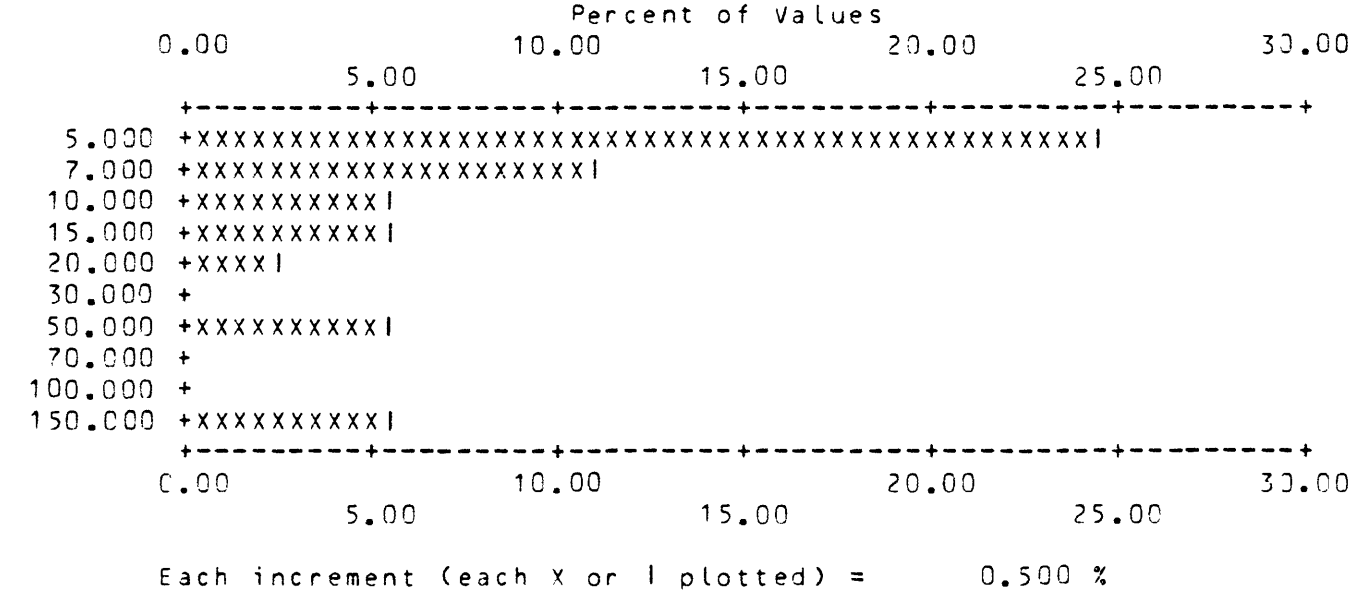
Table 11 Frequency tables and histograms for stream-sediment samples

S-MO

	VALUE	NO.	%	CUM.	CUM. %		TOT CUM	TOT CUM %	
1	5.000	9	24.32	9	24.3	75.7	24	64.9	35.1
2	7.000	4	10.81	13	35.1	64.9	28	75.7	24.3
3	10.000	2	5.41	15	40.5	59.5	30	81.1	18.9
4	15.000	2	5.41	17	45.9	54.1	32	86.5	13.5
5	20.000	1	2.70	18	48.6	51.4	33	89.2	10.3
6	50.000	2	5.41	20	54.1	45.9	35	94.6	5.4
7	150.000	2	5.41	22	59.5	40.5	37	100.0	0.0

B	T	H	N	L	G	OTHER	UNQUAL	ANAL	READ	
0	0	0	10	5	0	0	22	37	37	VALUES
0.0	0.0	0.0	27.0	13.5	0.0	0.0	59.5			PERCENT

MIN	MAX	AMEAN	SD	GMEAN	GD	VALUES
5.000	150.00	24.682	42.58	11.190	2.99	22



Each increment (each X or I plotted) = 0.500 %

Table 11 Frequency tables and histograms for stream-sediment samples

S-NB

	VALUE	NO.	%	CUM.	CUM. %		TOT CUM	TOT CUM %	
1	20.000	7	18.92	7	18.9	81.1	37	100.0	0.0

B	T	H	N	L	G	OTHER	UNQUAL	ANAL	READ	
0	0	0	11	19	0	0	7	37	37	VALUES
0.0	0.0	0.0	29.7	51.4	0.0	0.0	18.9			PERCENT

MIN	MAX	AMEAN	SD	GMEAN	GD	VALUES
20.000	20.00	20.000	0.00	20.000	********	7

```
                              Percent of Values
         0.00                10.00                20.00                30.00
                   5.00                15.00                25.00
          +---------+---------+---------+---------+---------+---------+
  20.000  +XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXI
          +---------+---------+---------+---------+---------+---------+
         0.00                10.00                20.00                30.00
                   5.00                15.00                25.00

         Each increment (each X or I plotted) =      0.500 %
```

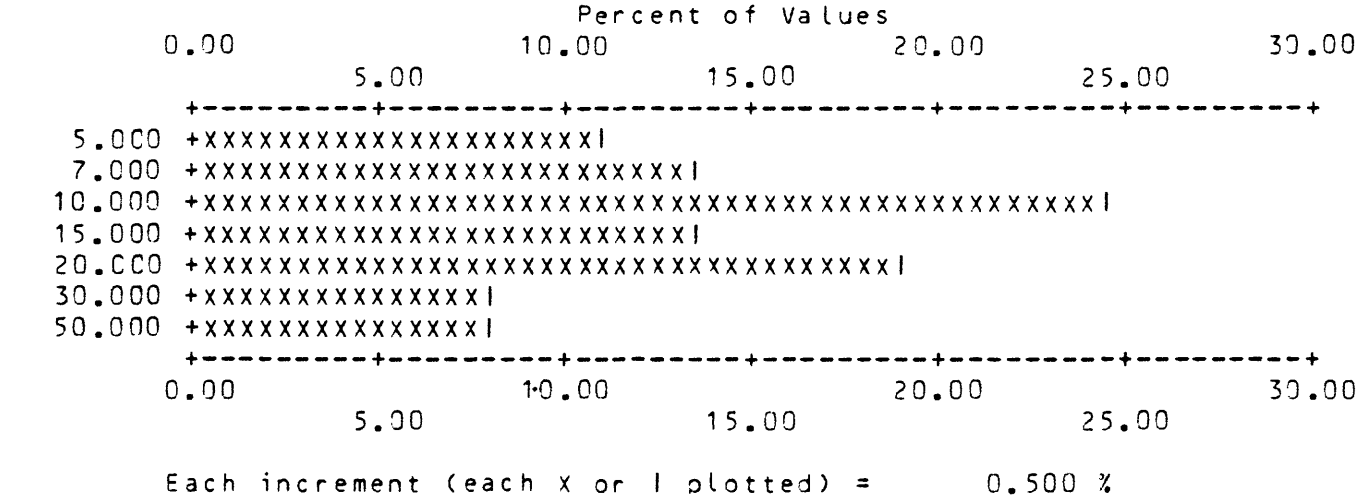
Table 11 Frequency tables and histograms for stream-sediment samples

S-NI

	VALUE	NO.	%	CUM.	CUM. %		TOT CUM	TOT CUM %	
1	5.000	4	10.81	4	10.8	89.2	5	13.5	86.5
2	7.000	5	13.51	9	24.3	75.7	10	27.0	73.0
3	10.000	9	24.32	18	48.6	51.4	19	51.4	48.6
4	15.000	5	13.51	23	62.2	37.3	24	64.9	35.1
5	20.000	7	18.92	30	81.1	18.9	31	83.8	16.2
6	30.000	3	8.11	33	89.2	10.8	34	91.9	8.1
7	50.000	3	8.11	36	97.3	2.7	37	100.0	0.0

B	T	H	N	L	G	OTHER	UNQUAL	ANAL	READ	
0	0	0	0	1	0	0	36	37	37	VALUES
0.0	0.0	0.0	0.0	2.7	0.0	0.0	97.3			PERCENT

MIN	MAX	AMEAN	SD	GMEAN	GD	VALUES
5.000	50.00	16.667	12.39	13.367	1.93	36



Each increment (each X or I plotted) = 0.500 %

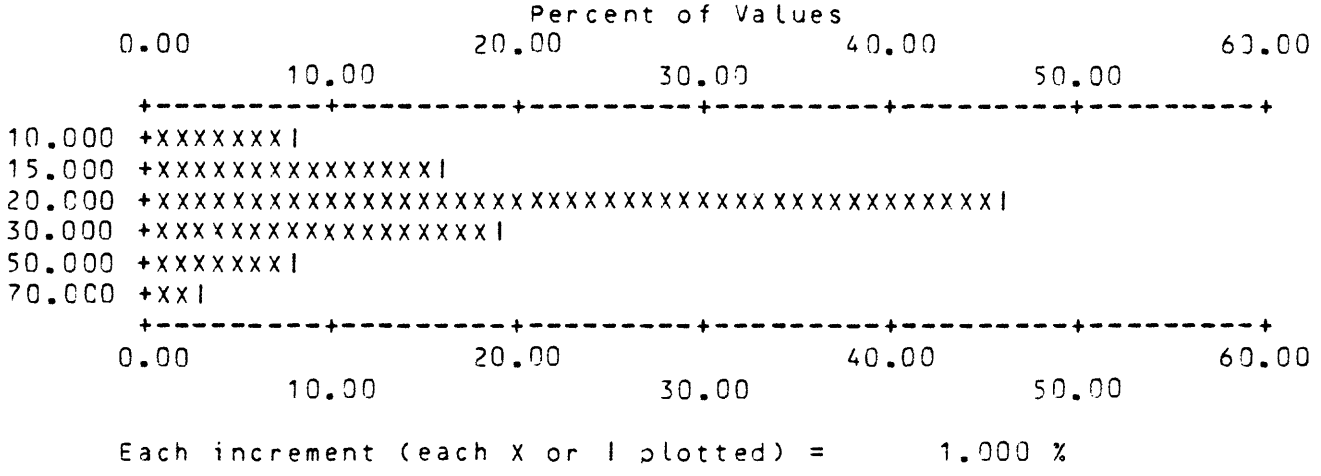
Table 11 Frequency tables and histograms for stream-sediment samples

S-PB

	VALUE	NO.	%	CUM.	CUM. %		TOT CUM	TOT CUM %	
1	10.000	3	8.11	3	8.1	91.9	3	8.1	91.9
2	15.000	6	16.22	9	24.3	75.7	9	24.3	75.7
3	20.000	17	45.95	26	70.3	29.7	26	70.3	29.7
4	30.000	7	18.92	33	89.2	10.8	33	89.2	10.8
5	50.000	3	8.11	36	97.3	2.7	36	97.3	2.7
6	70.000	1	2.70	37	100.0	0.0	37	100.0	0.0

B	T	H	N	L	G	OTHER	UNQUAL	ANAL	READ	
0	0	0	0	0	0	0	37	37	37	VALUES
0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0			PERCENT

MIN	MAX	AMEAN	SD	GMEAN	GD	VALUES
10.000	70.00	24.054	12.63	21.709	1.55	37



Each increment (each X or I plotted) = 1.000 %

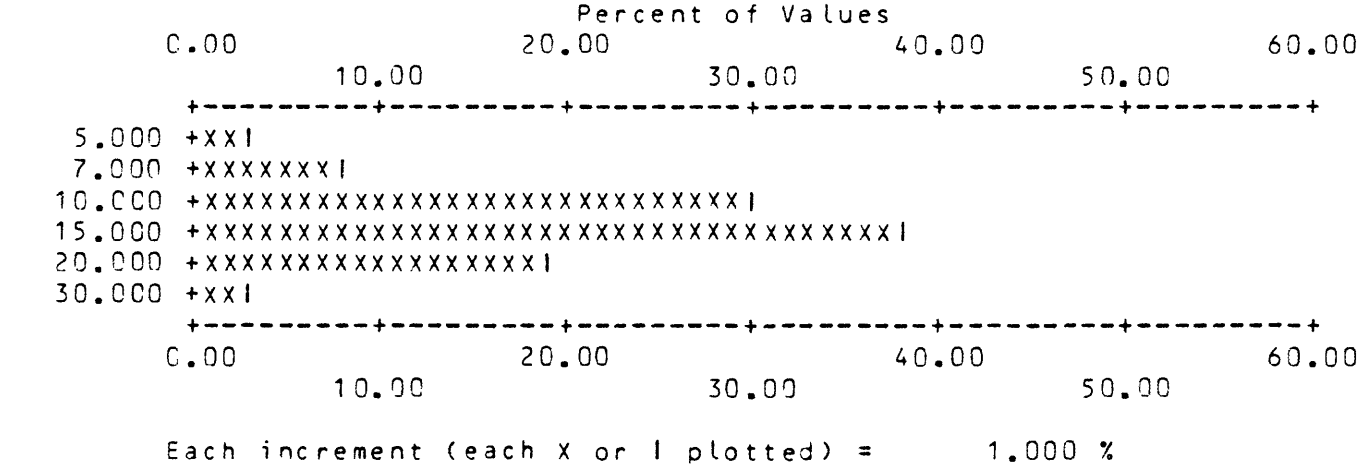
Table 11 Frequency tables and histograms for stream-sediment samples

S-SC

	VALUE	NO.	%	CUM.	CUM. %		TOT CUM	TOT CUM %	
1	5.000	1	2.70	1	2.7	97.3	1	2.7	97.3
2	7.000	3	8.11	4	10.8	89.2	4	10.8	89.2
3	10.000	11	29.73	15	40.5	59.5	15	40.5	59.5
4	15.000	14	37.84	29	78.4	21.6	29	78.4	21.6
5	20.000	7	18.92	36	97.3	2.7	36	97.3	2.7
6	30.000	1	2.70	37	100.0	0.0	37	100.0	0.0

B	T	H	N	L	G	OTHER	UNQUAL	ANAL	READ	
0	0	0	0	0	0	0	37	37	37	VALUES
0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0			PERCENT

MIN	MAX	AMEAN	SD	GMEAN	GD	VALUES
5.000	30.00	13.946	5.07	13.055	1.46	37



Each increment (each X or I plotted) = 1.000 %

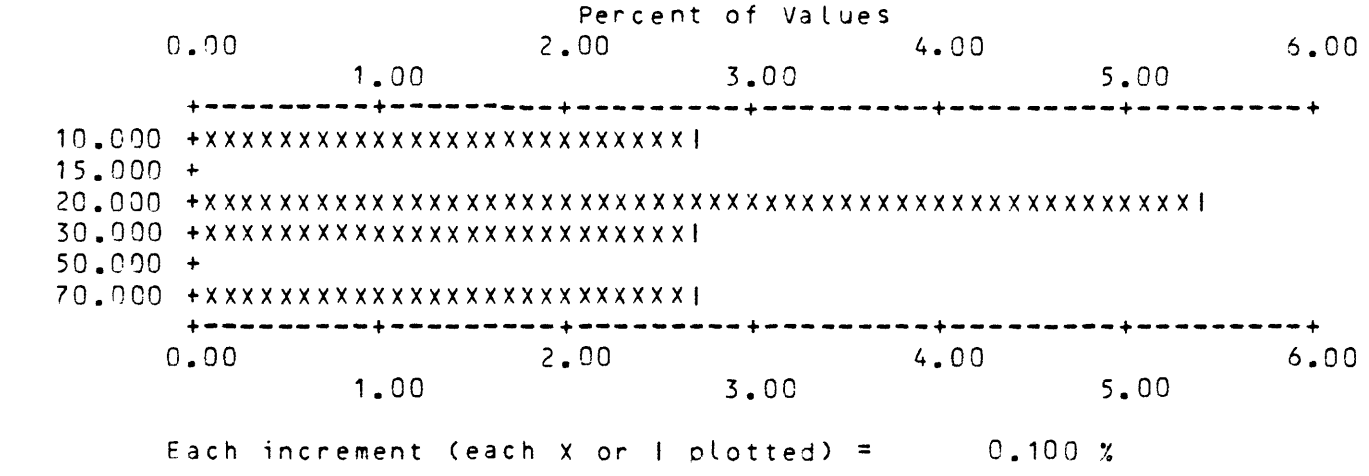
Table 11 Frequency tables and histograms for stream-sediment samples

S-SN

	VALUE	NO.	%	CUM.	CUM. %		TOT CUM	TOT CUM %	
1	10.000	1	2.70	1	2.7	97.3	33	89.2	10.8
2	20.000	2	5.41	3	8.1	91.9	35	94.6	5.4
3	30.000	1	2.70	4	10.8	89.2	36	97.3	2.7
4	70.000	1	2.70	5	13.5	86.5	37	100.0	0.0

B	T	H	N	L	G	OTHER	UNQUAL	ANAL	READ	
0	0	0	32	0	0	0	5	37	37	VALUES
0.0	0.0	0.0	86.5	0.0	0.0	0.0	13.5			PERCENT

MIN	MAX	AMEAN	SD	GMEAN	GD	VALUES
10.000	70.00	30.000	23.45	24.258	2.04	5



Each increment (each X or I plotted) = 0.100 %

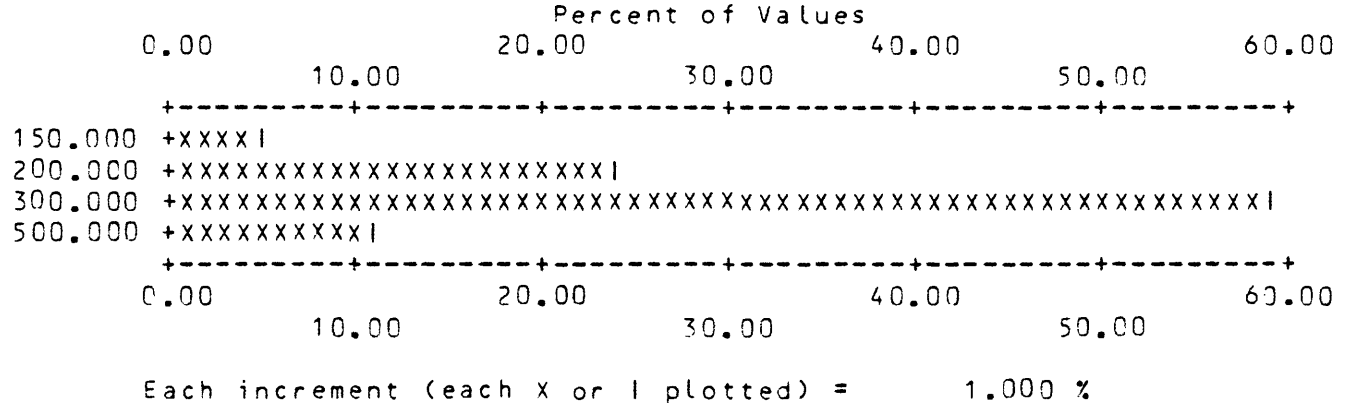
Table 11 Frequency tables and histograms for stream-sediment samples

S-SR

	VALUE	NO.	%	CUM.	CUM. %		TOT CUM	TOT CUM %	
1	150.000	2	5.41	2	5.4	94.6	2	5.4	94.6
2	200.000	9	24.32	11	29.7	70.3	11	29.7	70.3
3	300.000	22	59.46	33	89.2	10.8	33	89.2	10.8
4	500.000	4	10.81	37	100.0	0.0	37	100.0	0.0

B	T	H	N	L	G	OTHER	UNQUAL	ANAL	READ	
0	0	0	0	0	0	0	37	37	37	VALUES
0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0			PERCENT

MIN	MAX	AMEAN	SD	GMEAN	GD	VALUES
150.000	500.00	289.189	89.86	276.694	1.35	37



Each increment (each X or I plotted) = 1.000 %

Table 11 Frequency tables and histograms for stream-sediment samples

S-TH

NO UNQUALIFIED VALUES FOUND

B	T	H	N	L	G	OTHER	UNQUAL	ANAL	READ	
0	0	0	36	1	0	0	0	37	37	VALUES
0.0	0.0	0.0	97.3	2.7	0.0	0.0	0.0			PERCENT

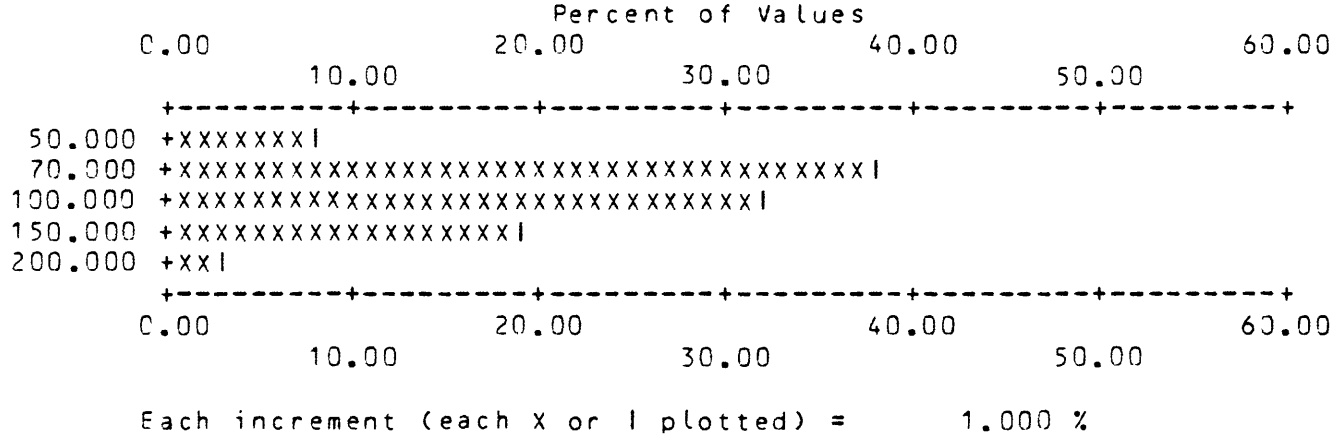
Table 11 Frequency tables and histograms for stream-sediment samples

S-V

	VALUE	NO.	%	CUM.	CUM. %		TOT CUM	TOT CUM %	
1	50.000	3	8.11	3	8.1	91.9	3	8.1	91.9
2	70.000	14	37.84	17	45.9	54.1	17	45.9	54.1
3	100.000	12	32.43	29	78.4	21.6	29	78.4	21.6
4	150.000	7	18.92	36	97.3	2.7	36	97.3	2.7
5	200.000	1	2.70	37	100.0	0.0	37	100.0	0.0

B	T	H	N	L	G	OTHER	UNQUAL	ANAL	READ	
0	0	0	0	0	0	0	37	37	37	VALUES
0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0			PERCENT

MIN	MAX	AMEAN	SD	GMEAN	GD	VALUES
50.000	200.00	96.757	36.21	90.872	1.42	37



Each increment (each X or I plotted) = 1.000 %

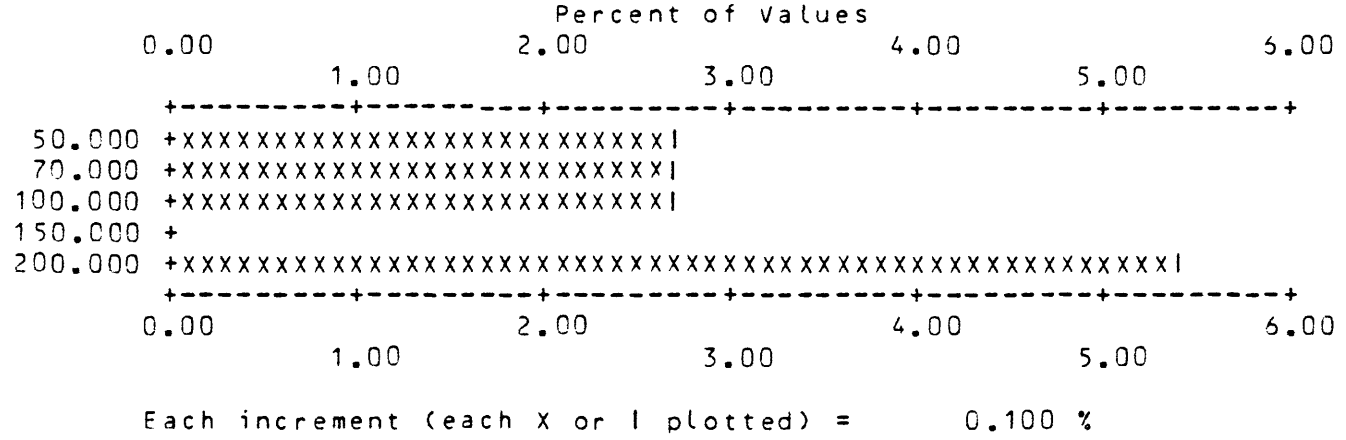
Table 11 Frequency tables and histograms for stream-sediment samples

S-W

	VALUE	NO.	%	CUM.	CUM. %		TOT CUM	TOT CUM %	
1	50.000	1	2.70	1	2.7	97.3	33	89.2	10.8
2	70.000	1	2.70	2	5.4	94.6	34	91.9	8.1
3	100.000	1	2.70	3	8.1	91.9	35	94.6	5.4
4	200.000	2	5.41	5	13.5	86.5	37	100.0	0.0

B	T	H	N	L	G	OTHER	UNQUAL	ANAL	READ	
0	0	0	29	3	0	0	5	37	37	VALUES
0.0	0.0	0.0	78.4	8.1	0.0	0.0	13.5			PERCENT

MIN	MAX	AMEAN	SD	GMEAN	GD	VALUES
50.000	200.00	124.000	71.62	106.961	1.86	5



Each increment (each X or I plotted) = 0.100 %

Table 11 Frequency tables and histograms for stream-sediment samples

S-Y

	VALUE	NO.	%	CUM.	CUM. %		TOT CUM	TOT CUM %	
1	10.000	1	2.70	1	2.7	97.3	1	2.7	97.3
2	15.000	15	40.54	16	43.2	56.8	16	43.2	56.8
3	20.000	18	48.65	34	91.9	8.1	34	91.9	8.1
4	30.000	3	8.11	37	100.0	0.0	37	100.0	0.0

B	T	H	N	L	G	OTHER	UNQUAL	ANAL	READ	
0	0	0	0	0	0	0	37	37	37	VALUES
0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0			PERCENT

MIN	MAX	AMEAN	SD	GMEAN	GD	VALUES
10.000	30.00	18.514	4.39	18.052	1.25	37

```
                           Percent of Values
         0.00                 20.00                 40.00                 60.00
                   10.00                 30.00                 50.00
          +---------+---------+---------+---------+---------+---------+
 10.000   +XXI
 15.000   +XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXI
 20.000   +XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXI
 30.000   +XXXXXXXI
          +---------+---------+---------+---------+---------+---------+
         0.00                 20.00                 40.00                 60.00
                   10.00                 30.00                 50.00

         Each increment (each X or I plotted) =       1.000 %
```

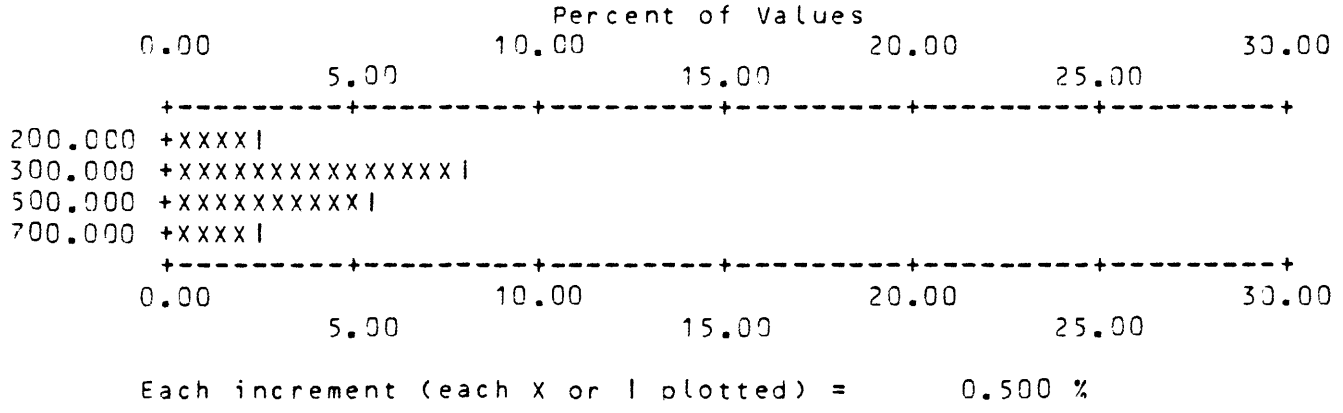
Table 11 Frequency tables and histograms for stream-sediment samples

S-ZN

	VALUE	NO.	%	CUM.	CUM. %		TOT CUM	TOT CUM %	
1	200.000	1	2.70	1	2.7	97.3	31	83.8	16.2
2	300.000	3	8.11	4	10.8	89.2	34	91.9	8.1
3	500.000	2	5.41	6	16.2	83.8	36	97.3	2.7
4	700.000	1	2.70	7	18.9	81.1	37	100.0	0.0

B	T	H	N	L	G	OTHER	UNQUAL	ANAL	READ	
0	0	0	28	2	0	0	7	37	37	VALUES
0.0	0.0	0.0	75.7	5.4	0.0	0.0	18.9			PERCENT

MIN	MAX	AMEAN	SD	GMEAN	GD	VALUES
200.000	700.00	400.000	173.21	369.759	1.53	7



Each increment (each X or I plotted) = 0.500 %

Table 11 Frequency tables and histograms for stream-sediment samples

S-ZR

	VALUE	NO.	%	CUM.	CUM. %		TOT CUM	TOT CUM %	
1	30.000	1	2.70	1	2.7	97.3	1	2.7	97.3
2	70.000	9	24.32	10	27.0	73.0	10	27.0	73.0
3	100.000	8	21.62	18	48.6	51.4	18	48.6	51.4
4	150.000	7	18.92	25	67.6	32.4	25	67.6	32.4
5	200.000	8	21.62	33	89.2	10.8	33	89.2	10.8
6	300.000	1	2.70	34	91.9	8.1	34	91.9	8.1
7	500.000	2	5.41	36	97.3	2.7	36	97.3	2.7
8	700.000	1	2.70	37	100.0	0.0	37	100.0	0.0

B	T	H	N	L	G	OTHER	UNQUAL	ANAL	READ	
0	0	0	0	0	0	0	37	37	37	VALUES
0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0			PERCENT

MIN	MAX	AMEAN	SD	GMEAN	GD	VALUES
30.000	700.00	165.135	136.78	131.859	1.90	37

```
                              Percent of Values
        0.00                10.00                20.00                30.00
                  5.00                 15.00                25.00
          +---------+---------+---------+---------+---------+---------+
   30.000 +XXXX|
   50.000 +
   70.000 +XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX|
  100.000 +XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX|
  150.000 +XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX|
  200.000 +XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX|
  300.000 +XXXX|
  500.000 +XXXXXXXXXX|
  700.000 +XXXX|
          +---------+---------+---------+---------+---------+---------+
        0.00                10.00                20.00                30.00
                  5.00                 15.00                25.00

        Each increment (each X or | plotted) =      0.500 %
```

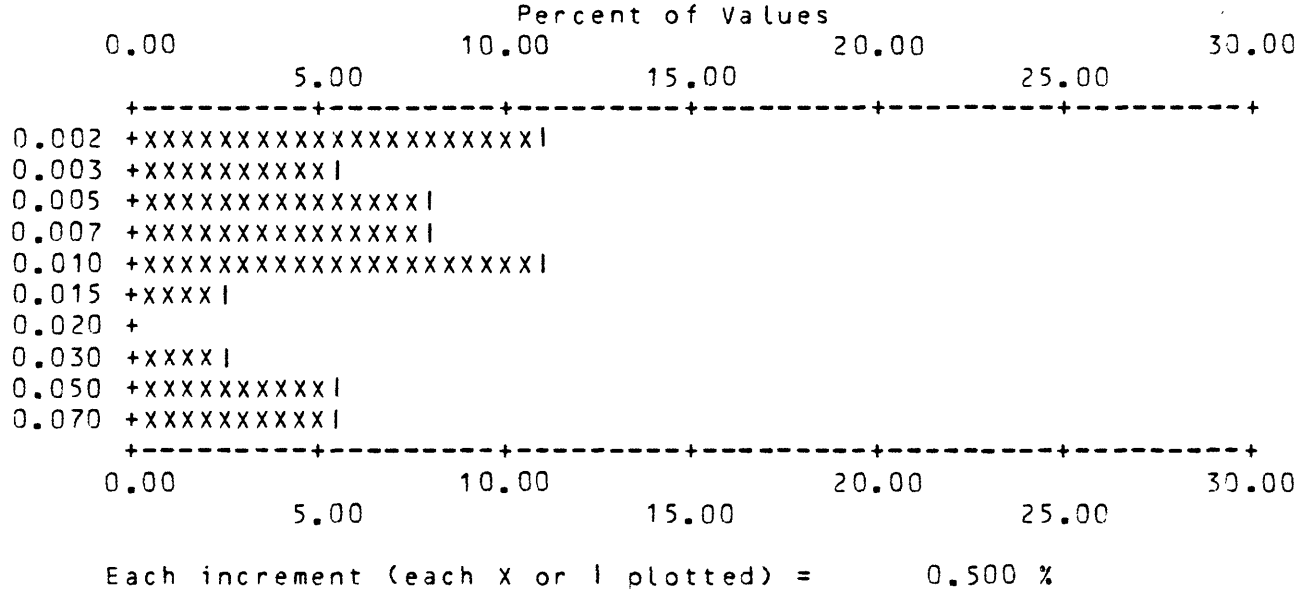
Table 11 Frequency tables and histograms for stream-sediment samples

AA-AU-T

	VALUE	NO.	%	CUM.	CUM. %		TOT CUM	TOT CUM %	
1	0.002	4	10.81	4	10.8	89.2	19	51.4	48.6
2	0.003	2	5.41	6	16.2	83.8	21	56.8	43.2
3	0.005	3	8.11	9	24.3	75.7	24	64.9	35.1
4	0.007	3	8.11	12	32.4	67.6	27	73.0	27.0
5	0.010	4	10.81	16	43.2	56.8	31	83.8	16.2
6	0.015	1	2.70	17	45.9	54.1	32	86.5	13.5
7	0.030	1	2.70	18	48.6	51.4	33	89.2	10.8
8	0.050	2	5.41	20	54.1	45.9	35	94.6	5.4
9	0.070	2	5.41	22	59.5	40.5	37	100.0	0.0

B	T	H	N	L	G	OTHER	UNQUAL	ANAL	READ	
0	0	0	10	5	0	0	22	37	37	VALUES
0.0	0.0	0.0	27.0	13.5	0.0	0.0	59.5			PERCENT

MIN	MAX	AMEAN	SD	GMEAN	GD	VALUES
0.002	0.07	0.017	0.02	0.009	3.22	22



Each increment (each X or I plotted) = 0.500 %

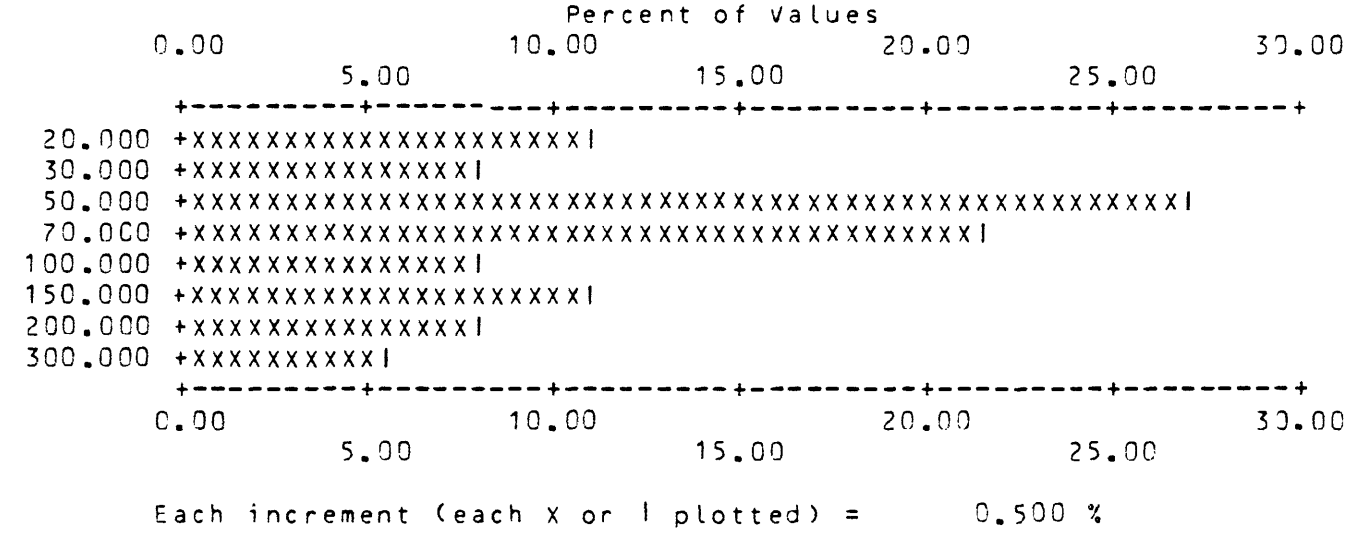
Table 11 Frequency tables and histograms for stream-sediment samples

AA-ZN-P

	VALUE	NO.	%	CUM.	CUM. %		TOT CUM	TOT CUM %	
1	20.000	4	10.81	4	10.8	89.2	4	10.8	89.2
2	30.000	3	8.11	7	18.9	81.1	7	18.9	81.1
3	50.000	10	27.03	17	45.9	54.1	17	45.9	54.1
4	70.000	8	21.62	25	67.6	32.4	25	67.6	32.4
5	100.000	3	8.11	28	75.7	24.3	28	75.7	24.3
6	150.000	4	10.81	32	86.5	13.5	32	86.5	13.5
7	200.000	3	8.11	35	94.6	5.4	35	94.6	5.4
8	300.000	2	5.41	37	100.0	0.0	37	100.0	0.0

B	T	H	N	L	G	OTHER	UNQUAL	ANAL	READ	
0	0	0	0	0	0	0	37	37	37	VALUES
0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0			PERCENT

MIN	MAX	AMEAN	SD	GMEAN	GD	VALUES
20.000	300.00	90.000	72.42	68.616	2.10	37



Each increment (each X or I plotted) = 0.500 %

Table 12 Frequency tables and histograms for nonmagnetic heavy-mineral concentrate samples

S-CA%

	VALUE	NO.	%	CUM.	CUM. %		TOT CUM	TOT CUM %	
1	5.000	6	15.38	6	15.4	84.6	6	15.4	84.6
2	7.000	14	35.90	20	51.3	48.7	20	51.3	48.7
3	10.000	17	43.59	37	94.9	5.1	37	94.9	5.1
4	15.000	2	5.13	39	100.0	0.0	39	100.0	0.0

B	T	H	N	L	G	OTHER	UNQUAL	ANAL	READ	
0	0	0	0	0	0	0	39	39	39	VALUES
0.0	C.0	0.0	0.0	0.0	0.0	0.0	100.0			PERCENT

MIN	MAX	AMEAN	SD	GMEAN	GD	VALUES
5.000	15.00	8.410	2.45	8.074	1.34	39

```
                          Percent of Values
       0.00                20.00                40.00                60.00
                 10.00                30.00                50.00
         +---------+---------+---------+---------+---------+---------+
  5.000  +XXXXXXXXXXXXXX|
  7.000  +XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX|
 10.000  +XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX|
 15.000  +XXXX|
         +---------+---------+---------+---------+---------+---------+
       0.00                20.00                40.00                60.00
                 10.00                30.00                50.00
```

Each increment (each X or | plotted) = 1.000 %

Table 12 Frequency tables and histograms for nonmagnetic heavy-mineral concentrate samples - (continued)

S-FE%

	VALUE	NO.	%	CUM.	CUM. %		TOT CUM	TOT CUM %	
1	0.500	8	20.51	8	20.5	79.5	8	20.5	79.5
2	0.700	6	15.38	14	35.9	64.1	14	35.9	64.1
3	1.000	7	17.95	21	53.8	46.2	21	53.8	46.2
4	1.500	6	15.38	27	69.2	30.8	27	69.2	30.8
5	2.000	6	15.38	33	84.6	15.4	33	84.6	15.4
6	3.000	4	10.26	37	94.9	5.1	37	94.9	5.1
7	5.000	1	2.56	38	97.4	2.6	38	97.4	2.6
8	10.000	1	2.56	39	100.0	0.0	39	100.0	0.0

B	T	H	N	L	G	OTHER	UNQUAL	ANAL	READ	
0	0	0	0	0	0	0	39	39	39	VALUES
0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0			PERCENT

MIN	MAX	AMEAN	SD	GMEAN	GD	VALUES
0.500	10.00	1.621	1.69	1.203	2.06	39

```
                              Percent of Values
       0.00                  10.00                 20.00                 30.00
                  5.00                  15.00                 25.00
        +---------+---------+---------+---------+---------+---------+
  0.500 +XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX|
  0.700 +XXXXXXXXXXXXXXXXXXXXXXXXXXXXXX|
  1.000 +XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX|
  1.500 +XXXXXXXXXXXXXXXXXXXXXXXXXXXXXX|
  2.000 +XXXXXXXXXXXXXXXXXXXXXXXXXXXXXX|
  3.000 +XXXXXXXXXXXXXXXXXXXX|
  5.000 +XXXX|
  7.000 +
 10.000 +XXXX|
        +---------+---------+---------+---------+---------+---------+
       0.00                  10.00                 20.00                 30.00
                  5.00                  15.00                 25.00

        Each increment (each X or | plotted) =      0.500 %
```

Table 12 Frequency tables and histograms for nonmagnetic heavy-mineral concentrate samples - (continued)

S-MG%

	VALUE	NO.	%	CUM.	CUM. %		TOT CUM	TOT CUM %	
1	0.100	1	2.56	1	2.6	97.4	1	2.6	97.4
2	0.150	1	2.56	2	5.1	94.9	2	5.1	94.9
3	0.200	6	15.38	8	20.5	79.5	8	20.5	79.5
4	0.300	3	7.69	11	28.2	71.8	11	28.2	71.8
5	0.500	7	17.95	18	46.2	53.8	18	46.2	53.8
6	0.700	1	2.56	19	48.7	51.3	19	48.7	51.3
7	1.000	2	5.13	21	53.8	46.2	21	53.8	46.2
8	1.500	4	10.26	25	64.1	35.9	25	64.1	35.9
9	2.000	6	15.38	31	79.5	20.5	31	79.5	20.5
10	3.000	4	10.26	35	89.7	10.3	35	89.7	10.3
11	5.000	4	10.26	39	100.0	0.0	39	100.0	0.0

B	T	H	N	L	G	OTHER	UNQUAL	ANAL	READ	
0	0	0	0	0	0	0	39	39	39	VALUES
0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0			PERCENT

MIN	MAX	AMEAN	SD	GMEAN	GD	VALUES
0.100	5.00	1.501	1.50	0.856	3.15	39

Percent of Values

```
          0.00                10.00                20.00                30.00
                    5.00                15.00                25.00
           +---------+---------+---------+---------+---------+---------+
0.100     +XXXX|
0.150     +XXXX|
0.200     +XXXXXXXXXXXXXXXXXXXXXXXXXXXXX|
0.300     +XXXXXXXXXXXXXX|
0.500     +XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX|
0.700     +XXXX|
1.000     +XXXXXXXXX|
1.500     +XXXXXXXXXXXXXXXXXX|
2.000     +XXXXXXXXXXXXXXXXXXXXXXXXXXXXX|
3.000     +XXXXXXXXXXXXXXXXXX|
5.000     +XXXXXXXXXXXXXXXXXX|
           +---------+---------+---------+---------+---------+---------+
          0.00                10.00                20.00                30.00
                    5.00                15.00                25.00
```

Each increment (each X or | plotted) = 0.500 %

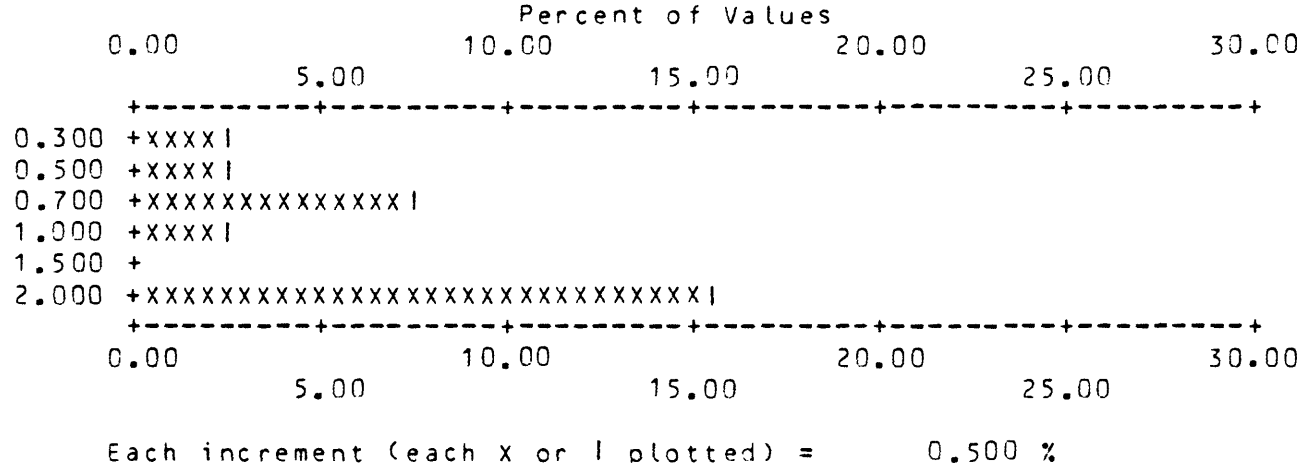
Table 12 Frequency tables and histograms for nonmagnetic heavy-mineral concentrate samples - (continued)

S-TI%

	VALUE	NO.	%	CUM.	CUM. %		TOT CUM	TOT CUM %	
1	0.300	1	2.56	1	2.6	97.4	1	2.6	97.4
2	0.500	1	2.56	2	5.1	94.9	2	5.1	94.9
3	0.700	3	7.69	5	12.8	87.2	5	12.8	87.2
4	1.000	1	2.56	6	15.4	84.6	6	15.4	84.6
5	2.000	6	15.38	12	30.8	69.2	12	30.8	69.2

B	T	H	N	L	G	OTHER	UNQUAL	ANAL	READ	
0	0	0	0	0	27	0	12	39	39	VALUES
0.0	0.0	0.0	0.0	0.0	69.2	0.0	30.8			PERCENT

MIN	MAX	AMEAN	SD	GMEAN	GD	VALUES
0.300	2.00	1.325	0.72	1.104	1.97	12



Each increment (each X or I plotted) = 0.500 %

Table 12 Frequency tables and histograms for nonmagnetic heavy-mineral concentrate samples - (continued)

S-AG

	VALUE	NO.	%	CUM.	CUM. %		TOT CUM	TOT CUM %	
1	1.000	2	5.13	2	5.1	94.9	30	76.9	23.1
2	2.000	1	2.56	3	7.7	92.3	31	79.5	20.5
3	3.000	2	5.13	5	12.8	87.2	33	84.6	15.4
4	5.000	1	2.56	6	15.4	84.6	34	87.2	12.8
5	7.000	1	2.56	7	17.9	82.1	35	89.7	10.3
6	20.000	4	10.26	11	28.2	71.8	39	100.0	0.0

B	T	H	N	L	G	OTHER	UNQUAL	ANAL	READ	
0	0	0	27	1	0	0	11	39	39	VALUES
0.0	0.0	0.0	69.2	2.6	0.0	0.0	28.2			PERCENT

MIN	MAX	AMEAN	SD	GMEAN	GD	VALUES
1.000	20.00	9.273	8.67	5.341	3.31	11

Percent of Values

```
          0.00                10.00                20.00                30.00
                    5.00                15.00                25.00
           +---------+---------+---------+---------+---------+---------+
 1.000     +XXXXXXXXXI
 1.500     +
 2.000     +XXXXI
 3.000     +XXXXXXXXXI
 5.000     +XXXXI
 7.000     +XXXXI
10.000     +
15.000     +
20.000     +XXXXXXXXXXXXXXXXXXXI
           +---------+---------+---------+---------+---------+---------+
          0.00                10.00                20.00                30.00
                    5.00                15.00                25.00
```

Each increment (each X or I plotted) = 0.500 %

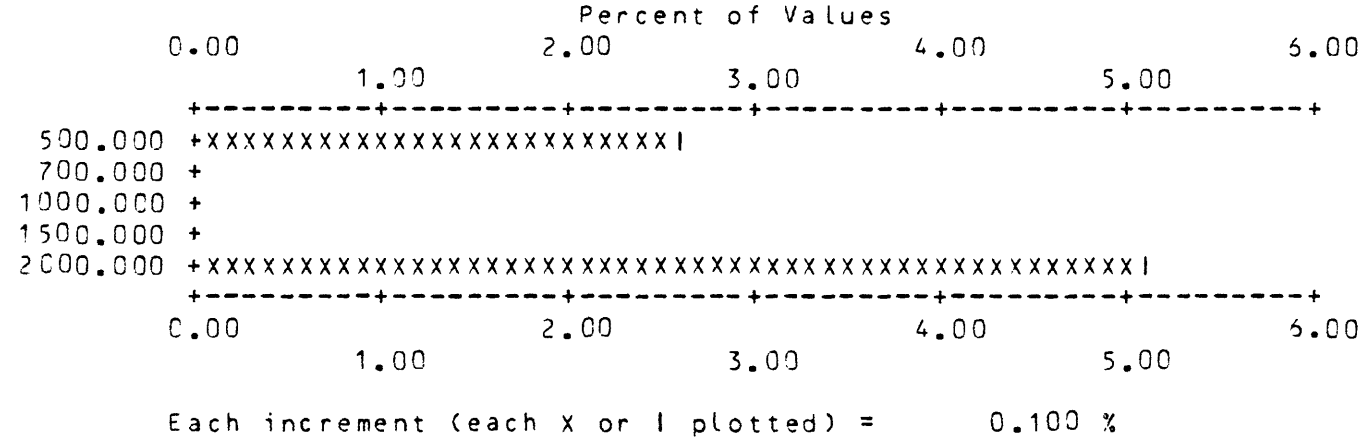
Table 12 Frequency tables and histograms for nonmagnetic heavy-mineral concentrate samples - (continued)

S-AS

	VALUE	NO.	%	CUM.	CUM. %	TOT CUM	TOT CUM %	
1	500.000	1	2.56	1	2.6	97.4	37	94.9	5.1
2	2000.000	2	5.13	3	7.7	92.3	39	100.0	0.0

B	T	H	N	L	G	OTHER	UNQUAL	ANAL	READ	
0	0	0	36	0	0	0	3	39	39	VALUES
0.0	0.0	0.0	92.3	0.0	0.0	0.0	7.7			PERCENT

MIN	MAX	AMEAN	SD	GMEAN	GD	VALUES
500.000	2000.00	1500.000	866.03	1259.921	2.23	3



Each increment (each X or I plotted) = 0.100 %

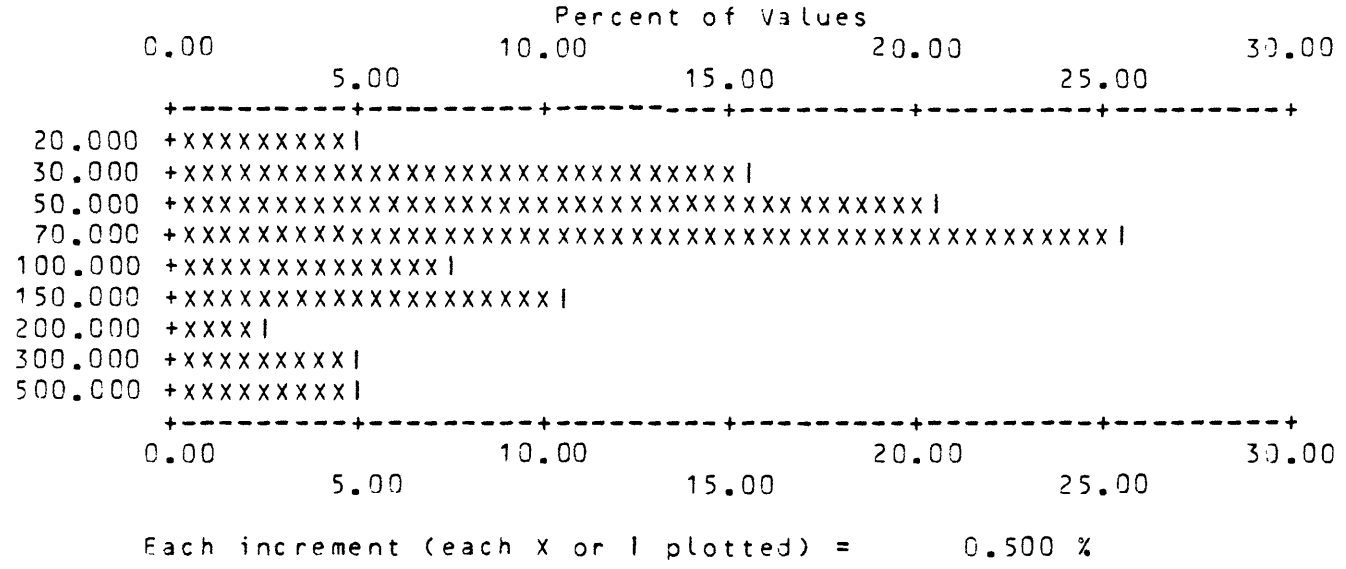
Table 12 Frequency tables and histograms for nonmagnetic heavy-mineral concentrate samples - (continued)

S-R

	VALUE	NO.	%	CUM.	CUM. %		TOT CUM	TOT CUM %	
1	20.000	2	5.13	2	5.1	94.9	3	7.7	92.3
2	30.000	6	15.38	8	20.5	79.5	9	23.1	76.9
3	50.000	8	20.51	16	41.0	59.0	17	43.6	56.4
4	70.000	10	25.64	26	66.7	33.3	27	69.2	30.8
5	100.000	3	7.69	29	74.4	25.6	30	76.9	23.1
6	150.000	4	10.26	33	84.6	15.4	34	87.2	12.8
7	200.000	1	2.56	34	87.2	12.8	35	89.7	10.3
8	300.000	2	5.13	36	92.3	7.7	37	94.9	5.1
9	500.000	2	5.13	38	97.4	2.6	39	100.0	0.0

B	T	H	N	L	G	OTHER	UNQUAL	ANAL	READ	
0	0	0	0	1	0	0	38	39	39	VALUES
0.0	0.0	0.0	0.0	2.6	0.0	0.0	97.4			PERCENT

MIN	MAX	AMEAN	SD	GMEAN	GD	VALUES
20.000	500.00	105.789	115.07	73.261	2.24	38



Each increment (each X or I plotted) = 0.500 %

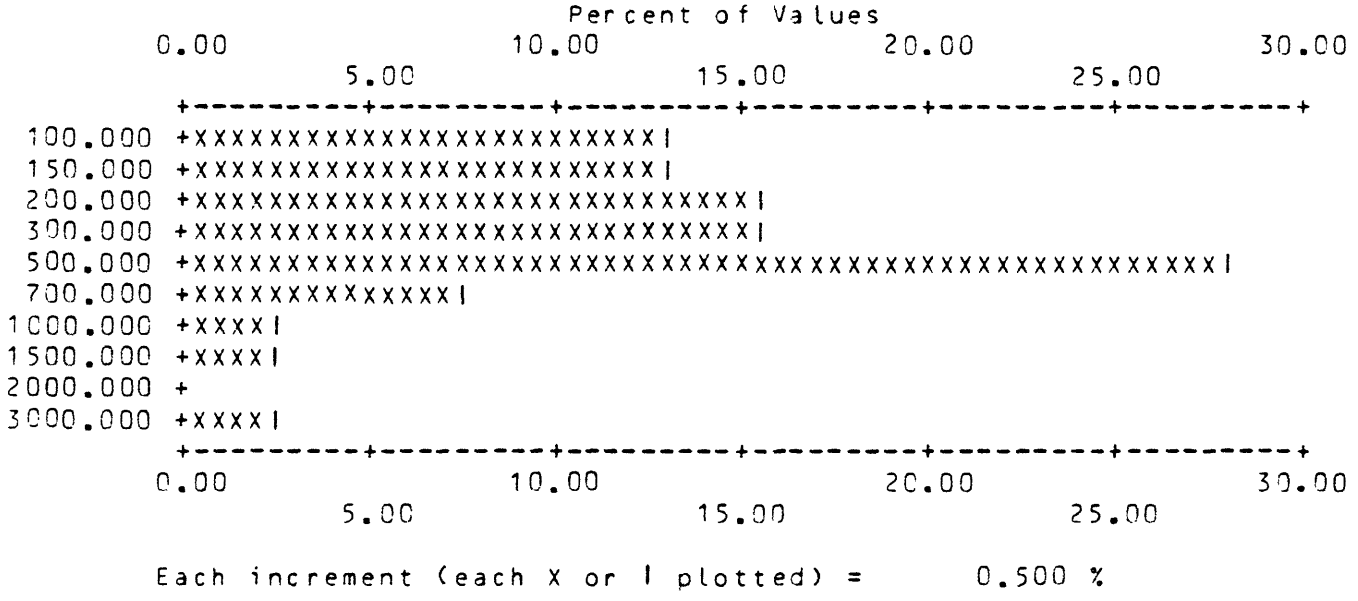
Table 12 Frequency tables and histograms for nonmagnetic heavy-mineral concentrate samples - (continued)

S-BA

	VALUE	NO.	%	CUM.	CUM. %		TOT CUM	TOT CUM %	
1	100.000	5	12.82	5	12.8	87.2	5	12.8	87.2
2	150.000	5	12.82	10	25.6	74.4	10	25.6	74.4
3	200.000	6	15.38	16	41.0	59.0	16	41.0	59.0
4	300.000	6	15.38	22	56.4	43.6	22	56.4	43.6
5	500.000	11	28.21	33	84.6	15.4	33	84.6	15.4
6	700.000	3	7.69	36	92.3	7.7	36	92.3	7.7
7	1000.000	1	2.56	37	94.9	5.1	37	94.9	5.1
8	1500.000	1	2.56	38	97.4	2.6	38	97.4	2.6
9	3000.000	1	2.56	39	100.0	0.0	39	100.0	0.0

B	T	H	N	L	G	OTHER	UNQUAL	ANAL	READ	
0	0	0	0	0	0	0	39	39	39	VALUES
0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0			PERCENT

MIN	MAX	AMEAN	SD	GMEAN	GD	VALUES
100.000	3000.00	444.872	505.08	314.859	2.20	39



Each increment (each X or I plotted) = 0.500 %

Table 12 Frequency tables and histograms for nonmagnetic heavy-mineral concentrate samples - (continued)

S-BE

	VALUE	NO.	%	CUM.	CUM. %		TOT CUM	TOT CUM %	
1	2.000	5	12.82	5	12.8	87.2	34	87.2	12.8
2	5.000	1	2.56	6	15.4	84.6	35	89.7	10.3
3	10.000	2	5.13	8	20.5	79.5	37	94.9	5.1
4	15.000	2	5.13	10	25.6	74.4	39	100.0	0.0

B	T	H	N	L	G	OTHER	UNQUAL	ANAL	READ	
0	0	0	17	12	0	0	10	39	39	VALUES
0.0	0.0	0.0	43.6	30.8	0.0	0.0	25.6			PERCENT

MIN	MAX	AMEAN	SD	GMEAN	GD	VALUES
2.000	15.00	6.500	5.50	4.525	2.49	10

Percent of Values

```
          0.00                10.00                20.00                30.00
                    5.00                15.00                25.00
           +---------+---------+---------+---------+---------+---------+
 2.000     +XXXXXXXXXXXXXXXXXXXXXXXXXXI
 3.000     +
 5.000     +XXXXI
 7.000     +
10.000     +XXXXXXXXXI
15.000     +XXXXXXXXXI
           +---------+---------+---------+---------+---------+---------+
          0.00                10.00                20.00                30.00
                    5.00                15.00                25.00
```

Each increment (each X or I plotted) = 0.500 %

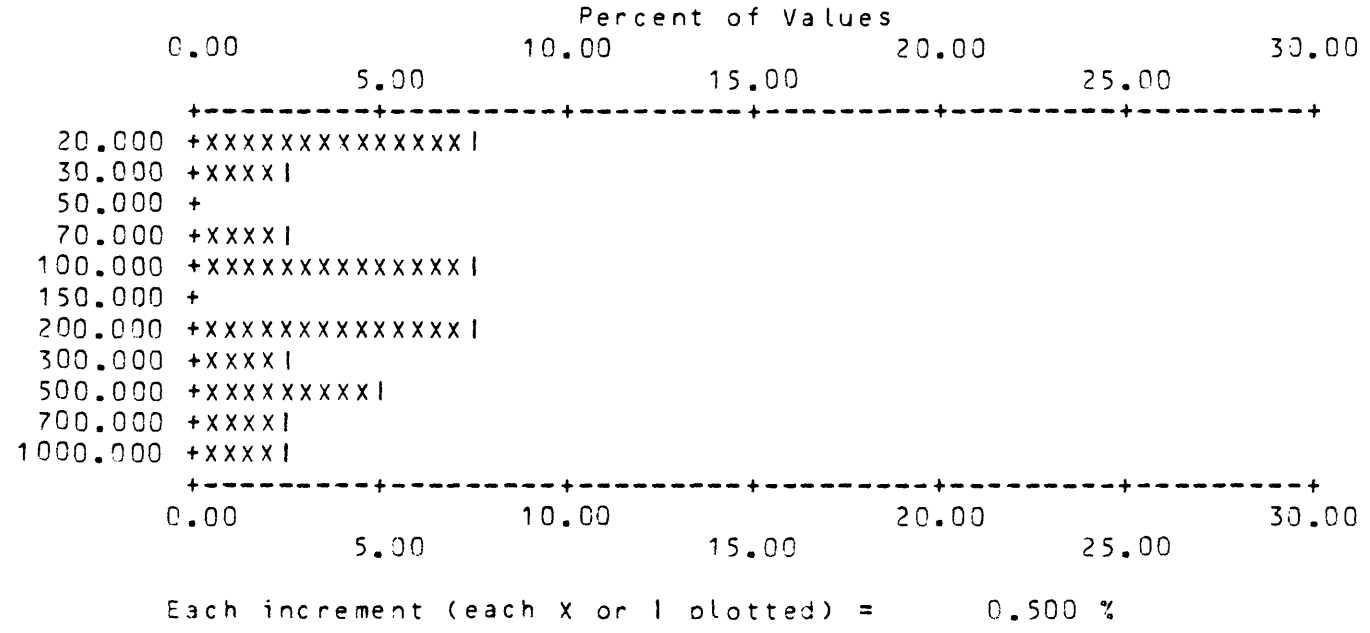
Table 12 Frequency tables and histograms for nonmagnetic heavy-mineral concentrate samples - (continued)

S-BI

	VALUE	NO.	%	CUM.	CUM. %		TOT CUM	TOT CUM %	
1	20.000	3	7.69	3	7.7	92.3	26	66.7	33.3
2	30.000	1	2.56	4	10.3	89.7	27	69.2	30.8
3	70.000	1	2.56	5	12.8	87.2	28	71.8	28.2
4	100.000	3	7.69	8	20.5	79.5	31	79.5	20.5
5	200.000	3	7.69	11	28.2	71.8	34	87.2	12.8
6	300.000	1	2.56	12	30.8	69.2	35	89.7	10.3
7	500.000	2	5.13	14	35.9	64.1	37	94.9	5.1
8	700.000	1	2.56	15	38.5	61.5	38	97.4	2.6
9	1000.000	1	2.56	16	41.0	59.0	39	100.0	0.0

B	T	H	N	L	G	OTHER	UNQUAL	ANAL	READ	
0	0	0	22	1	0	0	16	39	39	VALUES
0.0	0.0	0.0	56.4	2.6	0.0	0.0	41.0			PERCENT

MIN	MAX	AMEAN	SD	GMEAN	GD	VALUES
20.000	1000.00	253.750	283.64	130.477	3.65	16



Each increment (each X or I plotted) = 0.500 %

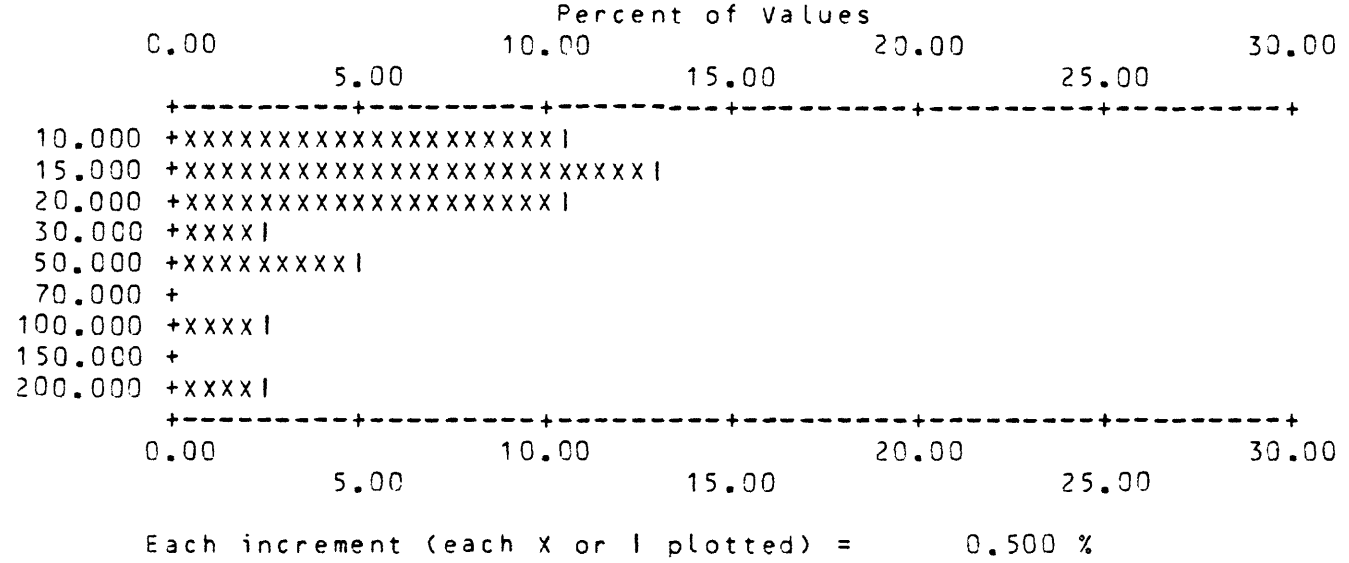
Table 12 Frequency tables and histograms for nonmagnetic heavy-mineral concentrate samples - (continued)

S-CO

	VALUE	NO.	%	CUM.	CUM. %		TOT CUM	TOT CUM %	
1	10.000	4	10.26	4	10.3	89.7	25	64.1	35.9
2	15.000	5	12.82	9	23.1	76.9	30	76.9	23.1
3	20.000	4	10.26	13	33.3	66.7	34	87.2	12.8
4	30.000	1	2.56	14	35.9	64.1	35	89.7	10.3
5	50.000	2	5.13	16	41.0	59.0	37	94.9	5.1
6	100.000	1	2.56	17	43.6	56.4	38	97.4	2.6
7	200.000	1	2.56	18	46.2	53.8	39	100.0	0.0

B	T	H	N	L	G	OTHER	UNQUAL	ANAL	READ	
0	0	0	14	7	0	0	18	39	39	VALUES
0.0	0.0	0.0	35.9	17.9	0.0	0.0	46.2			PERCENT

MIN	MAX	AMEAN	SD	GMEAN	GD	VALUES
10.000	200.00	34.722	46.86	22.275	2.31	18



Each increment (each X or I plotted) = 0.500 %

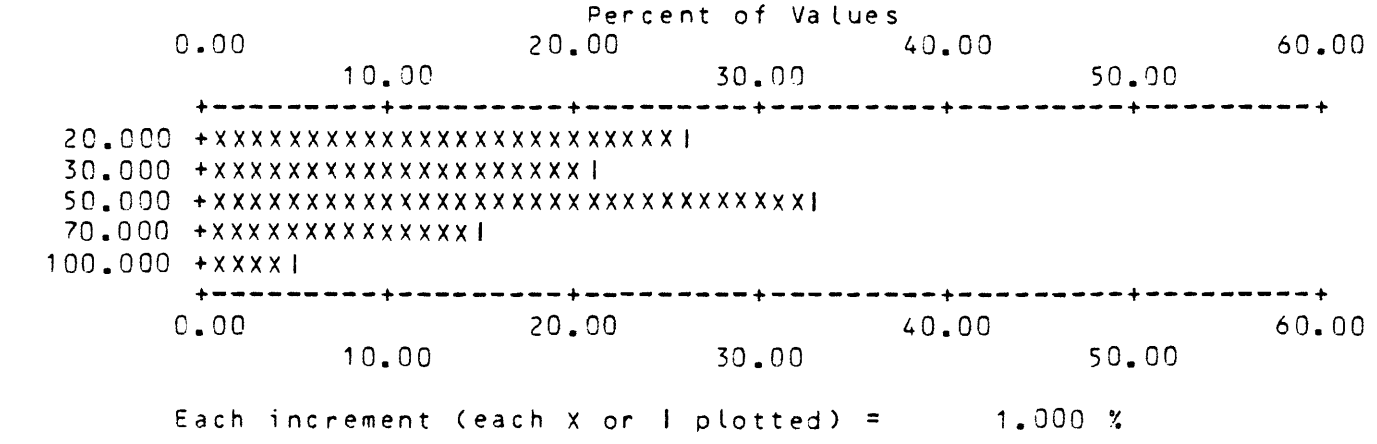
Table 12 Frequency tables and histograms for nonmagnetic heavy-mineral concentrate samples - (continued)

S-CR

	VALUE	NO.	%	CUM.	CUM. %		TOT CUM	TOT CUM %	
1	20.000	10	25.64	10	25.6	74.4	10	25.6	74.4
2	30.000	8	20.51	18	46.2	53.8	18	46.2	53.8
3	50.000	13	33.33	31	79.5	20.5	31	79.5	20.5
4	70.000	6	15.38	37	94.9	5.1	37	94.9	5.1
5	100.000	2	5.13	39	100.0	0.0	39	100.0	0.0

B	T	H	N	L	G	OTHER	UNQUAL	ANAL	READ	
0	0	0	0	0	0	0	39	39	39	VALUES
0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0			PERCENT

MIN	MAX	AMEAN	SD	GMEAN	GD	VALUES
20.000	100.00	43.846	21.84	38.846	1.65	39



Each increment (each X or I plotted) = 1.000 %

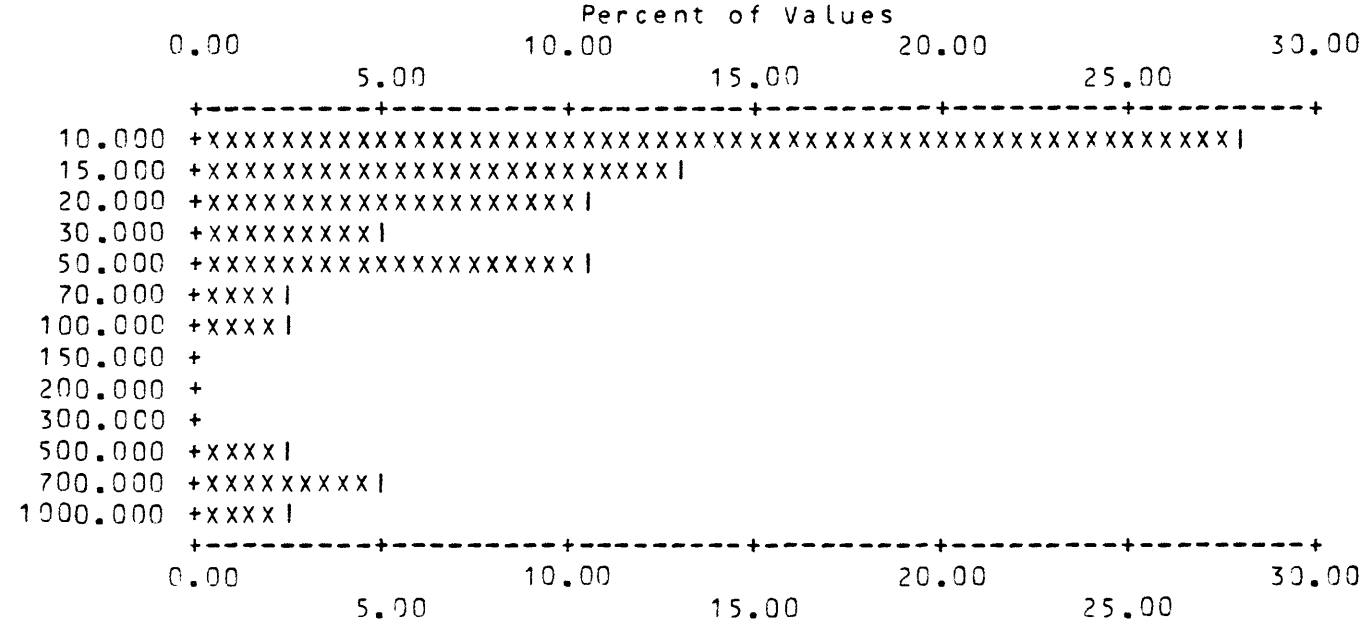
Table 12 Frequency tables and histograms for nonmagnetic heavy-mineral concentrate samples - (continued)

S-CU

	VALUE	NO.	%	CUM.	CUM. %		TOT CUM	TOT CUM %	
1	10.000	11	28.21	11	28.2	71.8	18	46.2	53.8
2	15.000	5	12.82	16	41.0	59.0	23	59.0	41.0
3	20.000	4	10.26	20	51.3	48.7	27	69.2	30.8
4	30.000	2	5.13	22	56.4	43.6	29	74.4	25.6
5	50.000	4	10.26	26	66.7	33.3	33	84.6	15.4
6	70.000	1	2.56	27	69.2	30.8	34	87.2	12.8
7	100.000	1	2.56	28	71.8	28.2	35	89.7	10.3
8	500.000	1	2.56	29	74.4	25.6	36	92.3	7.7
9	700.000	2	5.13	31	79.5	20.5	38	97.4	2.6
10	1000.000	1	2.56	32	82.1	17.9	39	100.0	0.0

B	T	H	N	L	G	OTHER	UNQUAL	ANAL	READ	
0	0	0	1	6	0	0	32	39	39	VALUES
0.0	0.0	0.0	2.6	15.4	0.0	0.0	82.1			PERCENT

MIN	MAX	AMEAN	SD	GMEAN	GD	VALUES
10.000	1000.00	112.344	244.73	29.574	4.00	32



Each increment (each X or I plotted) = 0.500 %

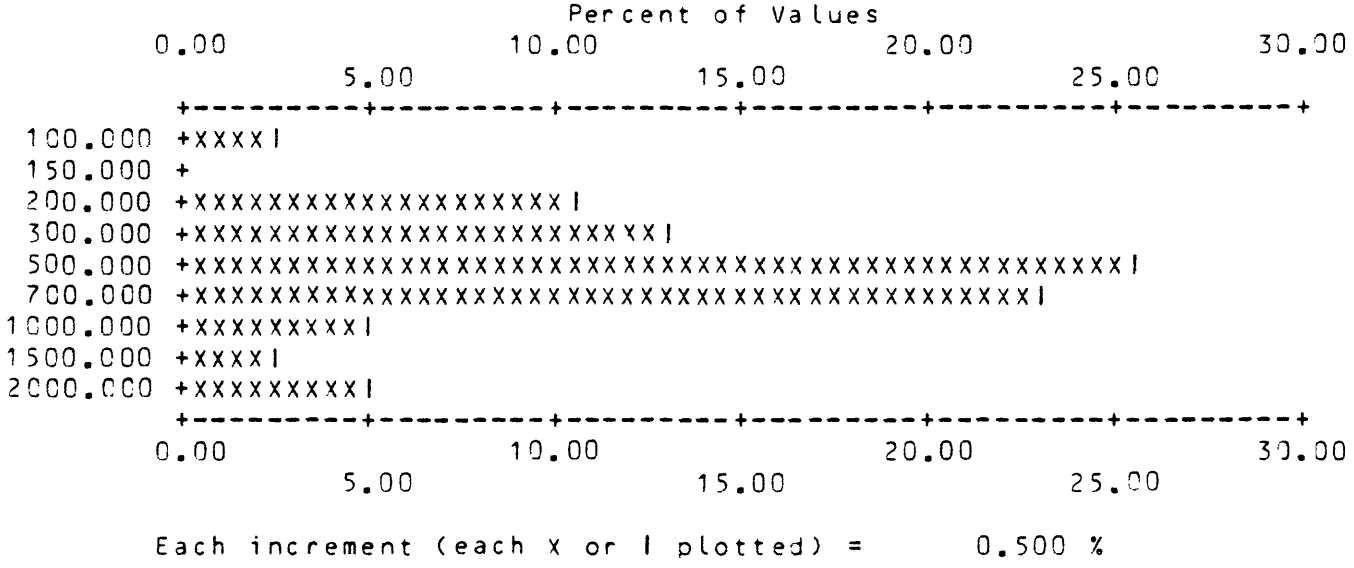
Table 12 Frequency tables and histograms for nonmagnetic heavy-mineral concentrate samples - (continued)

S-LA

	VALUE	NO.	%	CUM.	CUM. %	TOT CUM	TOT CUM %	
1	100.000	1	2.56	1	2.6	97.4	4	10.3	89.7
2	200.000	4	10.26	5	12.8	87.2	8	20.5	79.5
3	300.000	5	12.82	10	25.6	74.4	13	33.3	66.7
4	500.000	10	25.64	20	51.3	48.7	23	59.0	41.0
5	700.000	9	23.08	29	74.4	25.6	32	82.1	17.9
6	1000.000	2	5.13	31	79.5	20.5	34	87.2	12.8
7	1500.000	1	2.56	32	82.1	17.9	35	89.7	10.3
8	2000.000	2	5.13	34	87.2	12.8	37	94.9	5.1

B	T	H	N	L	G	OTHER	UNQUAL	ANAL	READ	
0	0	0	1	2	2	0	34	39	39	VALUES
0.0	0.0	0.0	2.6	5.1	5.1	0.0	87.2			PERCENT

MIN	MAX	AMEAN	SD	GMEAN	GD	VALUES
100.000	2000.00	623.529	445.90	506.766	1.93	34



Each increment (each X or I plotted) = 0.500 %

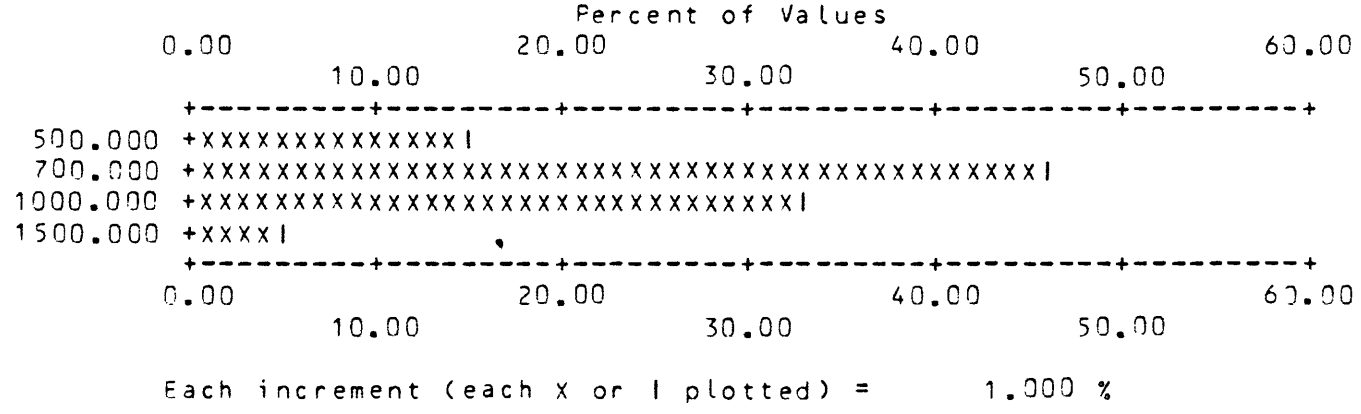
Table 12 Frequency tables and histograms for nonmagnetic heavy-mineral concentrate samples - (continued)

S-MN

	VALUE	NO.	%	CUM.	CUM. %		TOT CUM	TOT CUM %	
1	500.000	6	15.38	6	15.4	84.6	6	15.4	84.6
2	700.000	18	46.15	24	61.5	38.5	24	61.5	38.5
3	1000.000	13	33.33	37	94.9	5.1	37	94.9	5.1
4	1500.000	2	5.13	39	100.0	0.0	39	100.0	0.0

B	T	H	N	L	G	OTHER	UNQUAL	ANAL	READ	
0	0	0	0	0	0	0	39	39	39	VALUES
0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0			PERCENT

MIN	MAX	AMEAN	SD	GMEAN	GD	VALUES
500.000	1500.00	810.256	241.48	778.439	1.33	39



Each increment (each X or I plotted) = 1.000 %

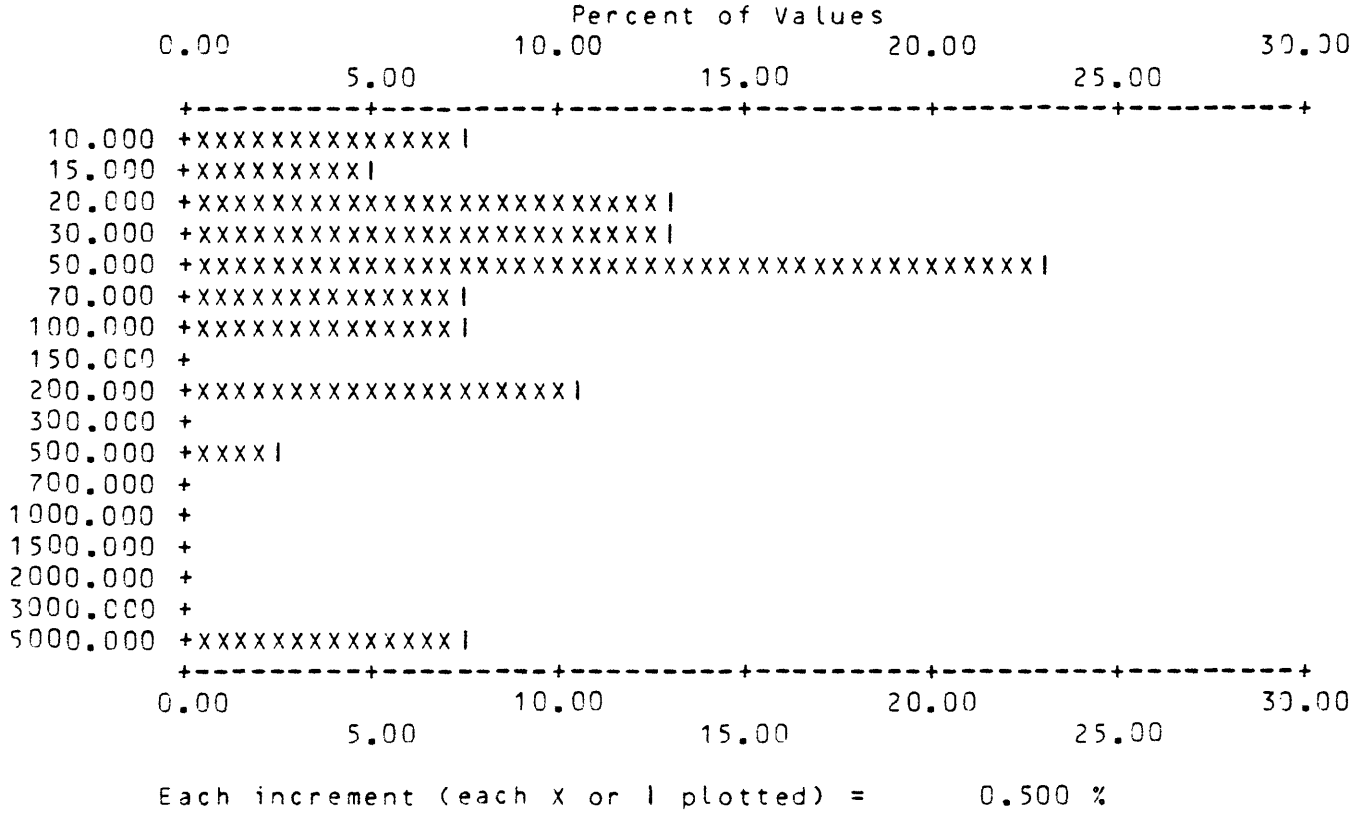
Table 12 Frequency tables and histograms for nonmagnetic heavy-mineral concentrate samples - (continued)

S-MO

	VALUE	NO.	%	CUM.	CUM. %		TOT CUM	TOT CUM %	
1	10.000	3	7.69	3	7.7	92.3	4	10.3	89.7
2	15.000	2	5.13	5	12.8	87.2	6	15.4	84.6
3	20.000	5	12.82	10	25.6	74.4	11	28.2	71.3
4	30.000	5	12.82	15	38.5	61.5	16	41.0	59.0
5	50.000	9	23.08	24	61.5	38.5	25	64.1	35.9
6	70.000	3	7.69	27	69.2	30.8	28	71.8	28.2
7	100.000	3	7.69	30	76.9	23.1	31	79.5	20.5
8	200.000	4	10.26	34	87.2	12.8	35	89.7	10.3
9	500.000	1	2.56	35	89.7	10.3	36	92.3	7.7
10	5000.000	3	7.69	38	97.4	2.6	39	100.0	0.0

B	T	H	N	L	G	OTHER	UNQUAL	ANAL	READ	
0	0	0	0	1	0	0	38	39	39	VALUES
0.0	0.0	0.0	0.0	2.6	0.0	0.0	97.4			PERCENT

MIN	MAX	AMEAN	SD	GMEAN	GD	VALUES
10.000	5000.00	462.368	1349.28	65.706	4.83	38



Each increment (each X or I plotted) = 0.500 %

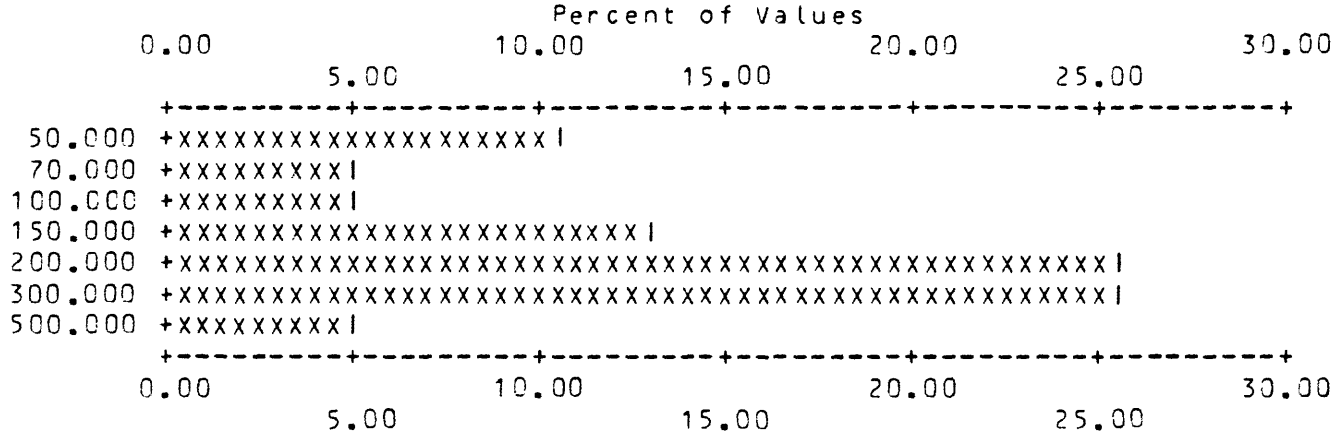
Table 12 Frequency tables and histograms for nonmagnetic heavy-mineral concentrate samples - (continued)

S-NB

	VALUE	NO.	%	CUM.	CUM. %		TOT CUM	TOT CUM %	
1	50.000	4	10.26	4	10.3	89.7	8	20.5	79.5
2	70.000	2	5.13	6	15.4	84.6	10	25.6	74.4
3	100.000	2	5.13	8	20.5	79.5	12	30.8	69.2
4	150.000	5	12.82	13	33.3	66.7	17	43.6	56.4
5	200.000	10	25.64	23	59.0	41.0	27	69.2	30.8
6	300.000	10	25.64	33	84.6	15.4	37	94.9	5.1
7	500.000	2	5.13	35	89.7	10.3	39	100.0	0.0

B	T	H	N	L	G	OTHER	UNQUAL	ANAL	READ	
0	0	0	1	3	0	0	35	39	39	VALUES
0.0	0.0	0.0	2.6	7.7	0.0	0.0	89.7			PERCENT

MIN	MAX	AMEAN	SD	GMEAN	GD	VALUES
50.000	500.00	208.286	112.97	175.457	1.90	35



Each increment (each X or I plotted) = 0.500 %

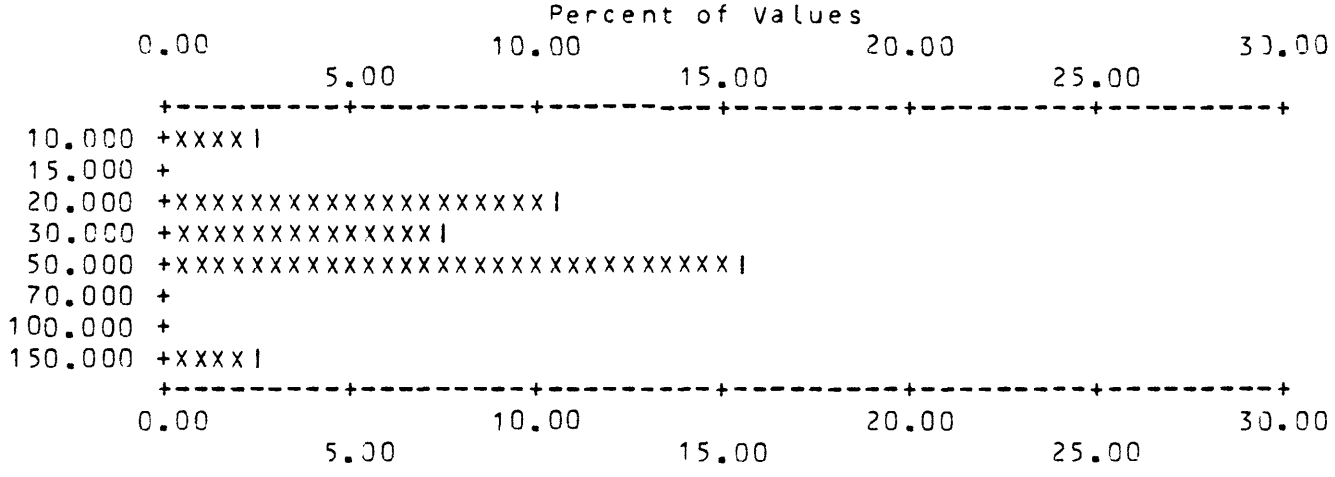
Table 12 Frequency tables and histograms for nonmagnetic heavy-mineral concentrate samples - (continued)

S-NI

	VALUE	NO.	%	CUM.	CUM. %		TOT CUM	TOT CUM %	
1	10.000	1	2.56	1	2.6	97.4	25	64.1	35.9
2	20.000	4	10.26	5	12.8	87.2	29	74.4	25.6
3	30.000	3	7.69	8	20.5	79.5	32	82.1	17.9
4	50.000	6	15.38	14	35.9	64.1	38	97.4	2.6
5	150.000	1	2.56	15	38.5	61.5	39	100.0	0.0

B	T	H	N	L	G	OTHER	UNQUAL	ANAL	READ	
0	0	0	22	2	0	0	15	39	39	VALUES
0.0	0.0	0.0	56.4	5.1	0.0	0.0	38.5			PERCENT

MIN	MAX	AMEAN	SD	GMEAN	GD	VALUES
10.000	150.00	42.000	33.21	34.174	1.90	15



Each increment (each X or I plotted) = 0.500 %

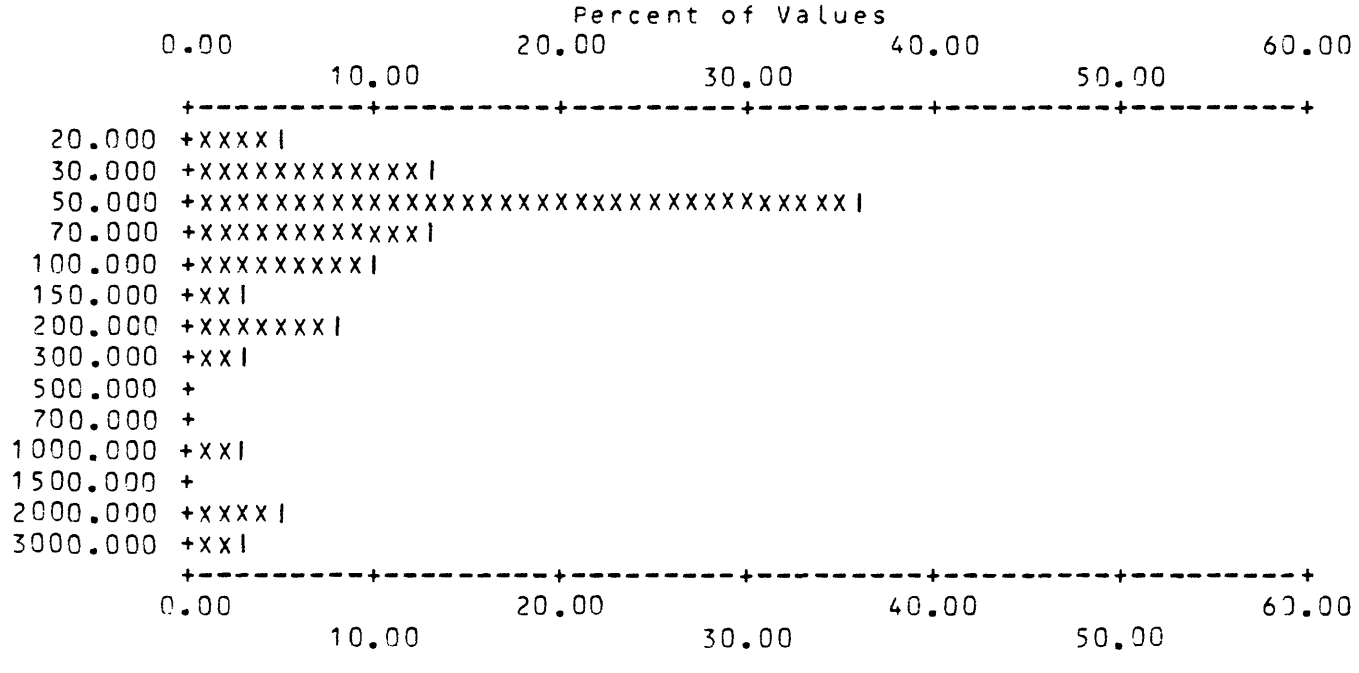
Table 12 Frequency tables and histograms for nonmagnetic heavy-mineral concentrate samples - (continued)

S-PB

	VALUE	NO.	%	CUM.	CUM. %		TOT CUM	TOT CUM %	
1	20.000	2	5.13	2	5.1	94.9	2	5.1	94.9
2	30.000	5	12.82	7	17.9	82.1	7	17.9	82.1
3	50.000	14	35.90	21	53.8	46.2	21	53.8	46.2
4	70.000	5	12.82	26	66.7	33.3	26	66.7	33.3
5	100.000	4	10.26	30	76.9	23.1	30	76.9	23.1
6	150.000	1	2.56	31	79.5	20.5	31	79.5	20.5
7	200.000	3	7.69	34	87.2	12.8	34	87.2	12.3
8	300.000	1	2.56	35	89.7	10.3	35	89.7	10.3
9	1000.000	1	2.56	36	92.3	7.7	36	92.3	7.7
10	2000.000	2	5.13	38	97.4	2.6	38	97.4	2.6
11	3000.000	1	2.56	39	100.0	0.0	39	100.0	0.0

B	T	H	N	L	G	OTHER	UNQUAL	ANAL	READ	
0	0	0	0	0	0	0	39	39	39	VALUES
0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0			PERCENT

MIN	MAX	AMEAN	SD	GMEAN	GD	VALUES
20.000	3000.00	274.103	636.75	86.964	3.39	39



Each increment (each X or I plotted) = 1.000 %

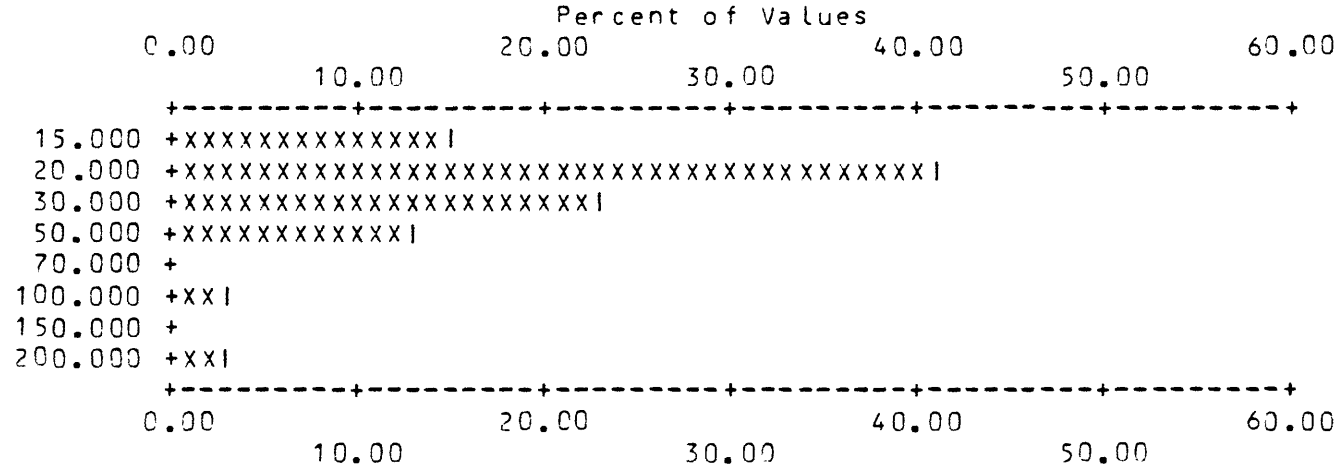
Table 12 Frequency tables and histograms for nonmagnetic heavy-mineral concentrate samples - (continued)

S-SC

	VALUE	NO.	%	CUM.	CUM. %		TOT CUM	TOT CUM %	
1	15.000	6	15.38	6	15.4	84.6	7	17.9	82.1
2	20.000	16	41.03	22	56.4	43.6	23	59.0	41.0
3	30.000	9	23.08	31	79.5	20.5	32	82.1	17.9
4	50.000	5	12.82	36	92.3	7.7	37	94.9	5.1
5	100.000	1	2.56	37	94.9	5.1	38	97.4	2.6
6	200.000	1	2.56	38	97.4	2.6	39	100.0	0.0

B	T	H	N	L	G	OTHER	UNQUAL	ANAL	READ	
0	0	0	1	0	0	0	38	39	39	VALUES
0.0	0.0	0.0	2.6	0.0	0.0	0.0	97.4			PERCENT

MIN	MAX	AMEAN	SD	GMEAN	GD	VALUES
15.000	200.00	32.368	32.27	26.307	1.73	38



Each increment (each X or I plotted) = 1.000 %

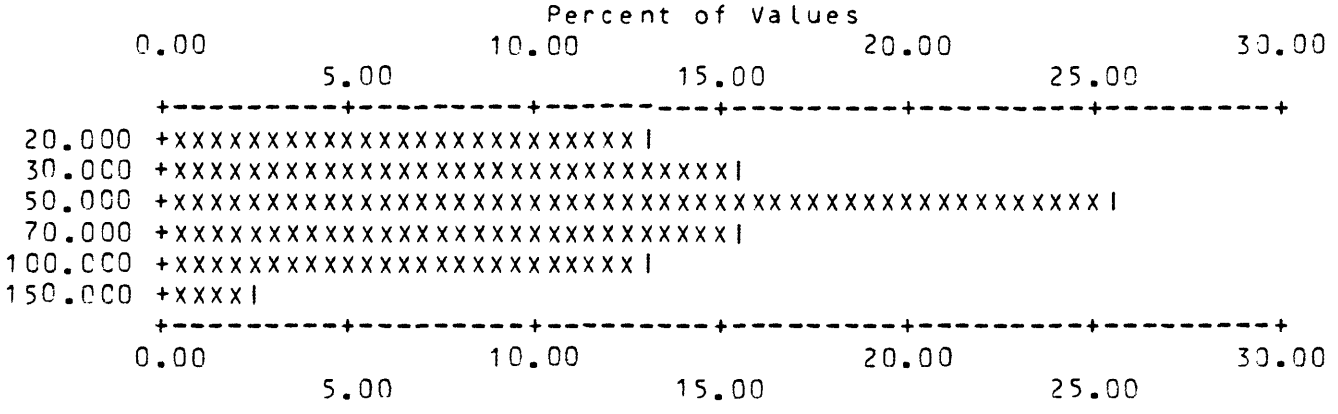
Table 12 Frequency tables and histograms for nonmagnetic heavy-mineral concentrate samples - (continued)

S-SN

	VALUE	NO.	%	CUM.	CUM. %		TOT CUM	TOT CUM %	
1	20.000	5	12.82	5	12.8	87.2	11	28.2	71.8
2	30.000	6	15.38	11	28.2	71.8	17	43.6	56.4
3	50.000	10	25.64	21	53.8	46.2	27	69.2	30.8
4	70.000	6	15.38	27	69.2	30.8	33	84.6	15.4
5	100.000	5	12.82	32	82.1	17.9	38	97.4	2.6
6	150.000	1	2.56	33	84.6	15.4	39	100.0	0.0

B	T	H	N	L	G	OTHER	UNQUAL	ANAL	READ	
0	0	0	3	3	0	0	33	39	39	VALUES
0.0	0.0	0.0	7.7	7.7	0.0	0.0	84.6			PERCENT

MIN	MAX	AMEAN	SD	GMEAN	GD	VALUES
20.000	150.00	56.061	30.92	48.415	1.75	33



Each increment (each X or I plotted) = 0.500 %

Table 12 Frequency tables and histograms for nonmagnetic heavy-mineral concentrate samples - (continued)

S-SR

	VALUE	NO.	%	CUM.	CUM. %		TOT CUM	TOT CUM %	
1	200.000	12	30.77	12	30.8	69.2	28	71.8	28.2
2	300.000	5	12.82	17	43.6	56.4	33	84.6	15.4
3	500.000	6	15.38	23	59.0	41.0	39	100.0	0.0

B	T	H	N	L	G	OTHER	UNQUAL	ANAL	READ	
0	0	0	11	5	0	0	23	39	39	VALUES
0.0	0.0	0.0	28.2	12.8	0.0	0.0	59.0			PERCENT

MIN	MAX	AMEAN	SD	GMEAN	GD	VALUES
200.000	500.00	300.000	127.92	277.409	1.48	23

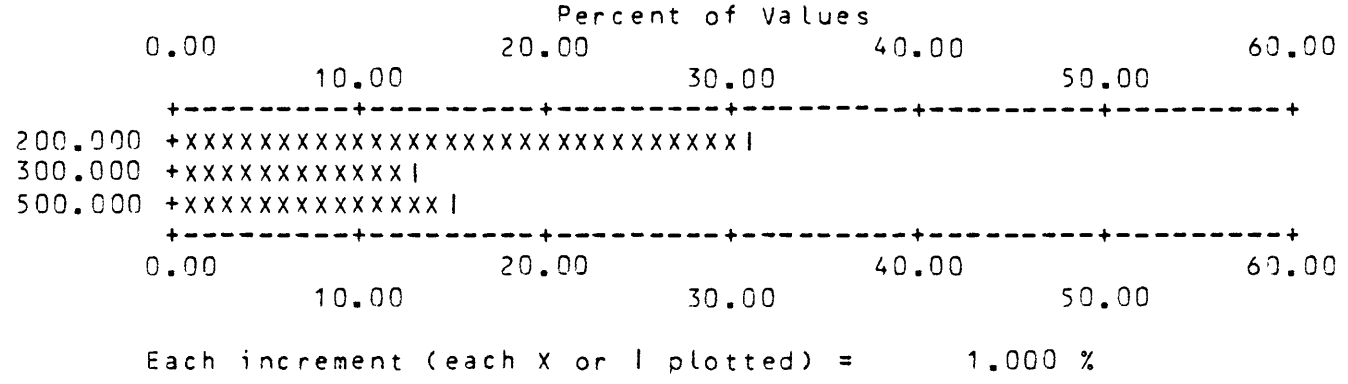


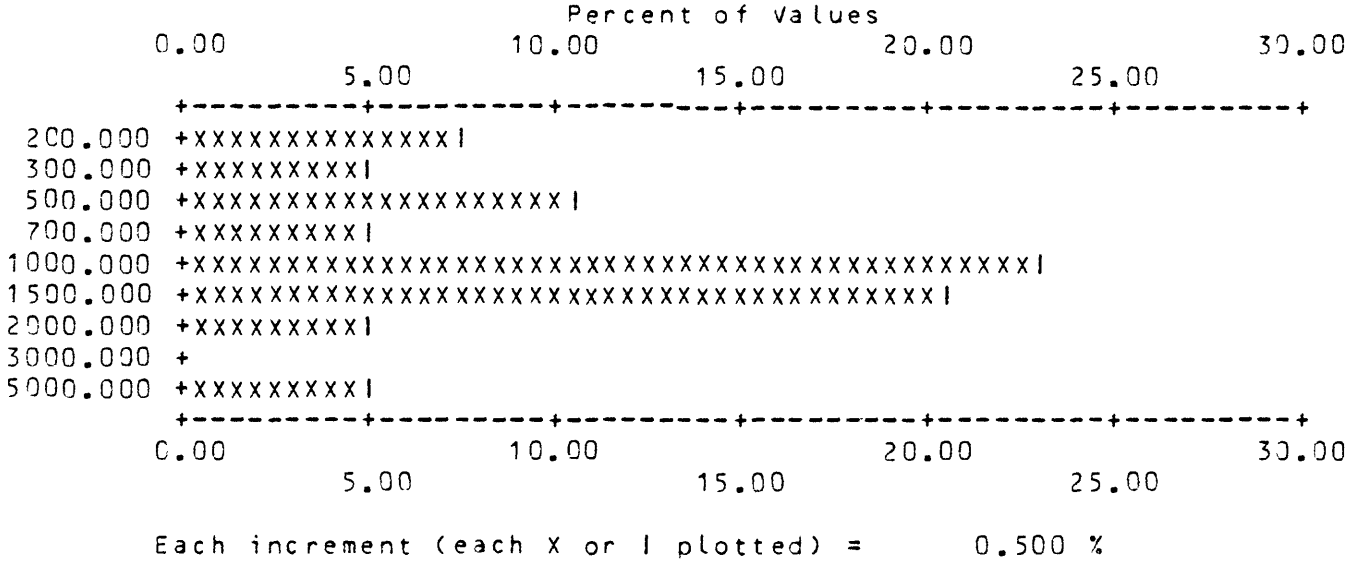
Table 12 Frequency tables and histograms for nonmagnetic heavy-mineral concentrate samples - (continued)

S-TH

	VALUE	NO.	%	CUM.	CUM. %		TOT CUM	TOT CUM %	
1	200.000	3	7.69	3	7.7	92.3	10	25.6	74.4
2	300.000	2	5.13	5	12.8	87.2	12	30.8	69.2
3	500.000	4	10.26	9	23.1	76.9	16	41.0	59.0
4	700.000	2	5.13	11	28.2	71.8	18	46.2	53.8
5	1000.000	9	23.08	20	51.3	48.7	27	69.2	30.8
6	1500.000	8	20.51	28	71.8	28.2	35	89.7	10.3
7	2000.000	2	5.13	30	76.9	23.1	37	94.9	5.1
8	5000.000	2	5.13	32	82.1	17.9	39	100.0	0.0

B	T	H	N	L	G	OTHER	UNQUAL	ANAL	READ	
0	0	0	2	5	0	0	32	39	39	VALUES
0.0	0.0	0.0	5.1	12.8	0.0	0.0	82.1			PERCENT

MIN	MAX	AMEAN	SD	GMEAN	GD	VALUES
200.000	5000.00	1237.500	1111.16	914.122	2.23	32



Each increment (each X or I plotted) = 0.500 %

Table 12 Frequency tables and histograms for nonmagnetic heavy-mineral concentrate samples - (continued)

S-V

	VALUE	NO.	%	CUM.	CUM. %		TOT CUM	TOT CUM %	
1	150.000	2	5.13	2	5.1	94.9	2	5.1	94.9
2	200.000	29	74.36	31	79.5	20.5	31	79.5	20.5
3	300.000	8	20.51	39	100.0	0.0	39	100.0	0.0

B	T	H	N	L	G	OTHER	UNQUAL	ANAL	READ	
0	0	0	0	0	0	C	39	39	39	VALUES
0.0	0.0	0.0	0.0	0.0	0.0	0.C	100.0			PERCENT

MIN	MAX	AMEAN	SD	GMEAN	GD	VALUES
150.000	300.00	217.949	43.66	214.163	1.20	39

```
                              Percent of values
        0.00               24.79               49.57               74.36
                  12.39               37.18               61.97
          +---------+---------+---------+---------+---------+---------+
 150.000  +XXXI
 200.000  +XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXI
 300.000  +XXXXXXXXXXXXXXXXI
          +---------+---------+---------+---------+---------+---------+
        0.00               24.79               49.57               74.36
                  12.39               37.18               61.97
```

Each increment (each X or I plotted) = 1.239 %

Table 12 Frequency tables and histograms for nonmagnetic heavy-mineral concentrate samples - (continued)

S-W

	VALUE	NO.	%	CUM.	CUM. %		TOT CUM	TOT CUM %	
1	100.000	8	20.51	8	20.5	79.5	9	23.1	76.9
2	150.000	2	5.13	10	25.6	74.4	11	28.2	71.8
3	200.000	5	12.82	15	38.5	61.5	16	41.0	59.0
4	300.000	7	17.95	22	56.4	43.6	23	59.0	41.0
5	500.000	6	15.38	28	71.8	28.2	29	74.4	25.6
6	700.000	1	2.56	29	74.4	25.6	30	76.9	23.1
7	1000.000	2	5.13	31	79.5	20.5	32	82.1	17.9
8	2000.000	3	7.69	34	87.2	12.8	35	89.7	10.3
9	3000.000	1	2.56	35	89.7	10.3	36	92.3	7.7
10	20000.000	3	7.69	38	97.4	2.6	39	100.0	0.0

B	T	H	N	L	G	OTHER	UNQUAL	ANAL	READ	
0	0	0	0	1	0	0	38	39	39	VALUES
0.0	0.0	0.0	0.0	2.6	0.0	0.0	97.4			PERCENT

MIN	MAX	AMEAN	SD	GMEAN	GD	VALUES
100.000	20000.00	2076.316	5357.80	441.822	4.35	38
50.000	20000.00	2024.359	5296.78	417.815	4.44	39

```
                               Percent of Values
           0.00                10.00                20.00                30.00
                     5.00                 15.00                25.00
            +---------+---------+---------+---------+---------+---------+
  100.000   +XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXI
  150.000   +XXXXXXXXXI
  200.000   +XXXXXXXXXXXXXXXXXXXXXXXXXI
  300.000   +XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXI
  500.000   +XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXI
  700.000   +XXXXI
 1000.000   +XXXXXXXXXI
 1500.000   +
 2000.000   +XXXXXXXXXXXXXXI
 3000.000   +XXXXI
 5000.000   +
 7000.000   +
10000.000   +
15000.000   +
20000.000   +XXXXXXXXXXXXXXI
            +---------+---------+---------+---------+---------+---------+
           0.00                10.00                20.00                30.00
                     5.00                 15.00                25.00

       Each increment (each X or I plotted) =      0.500 %
```

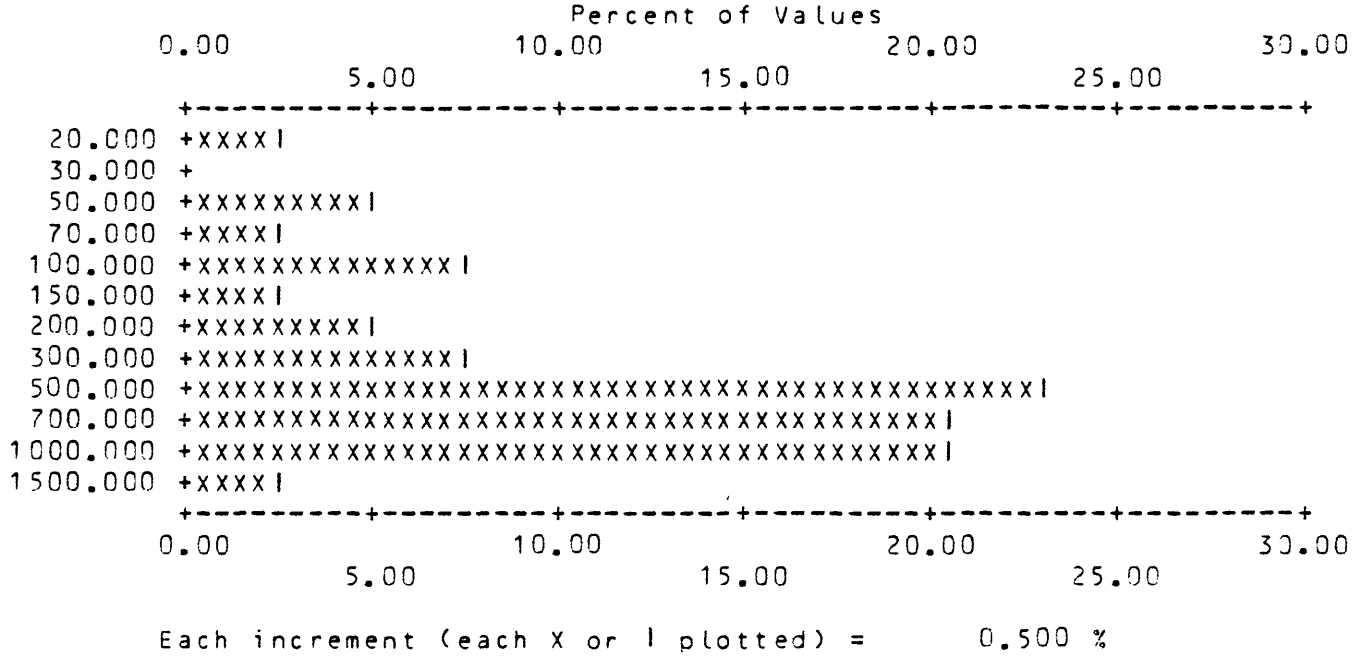
Table 12 Frequency tables and histograms for nonmagnetic heavy-mineral concentrate samples - (continued)

S-Y

	VALUE	NO.	%	CUM.	CUM. %		TOT CUM	TOT CUM %	
1	20.000	1	2.56	1	2.6	97.4	1	2.6	97.4
2	50.000	2	5.13	3	7.7	92.3	3	7.7	92.3
3	70.000	1	2.56	4	10.3	89.7	4	10.3	89.7
4	100.000	3	7.69	7	17.9	82.1	7	17.9	82.1
5	150.000	1	2.56	8	20.5	79.5	8	20.5	79.5
6	200.000	2	5.13	10	25.6	74.4	10	25.6	74.4
7	300.000	3	7.69	13	33.3	66.7	13	33.3	66.7
8	500.000	9	23.08	22	56.4	43.6	22	56.4	43.6
9	700.000	8	20.51	30	76.9	23.1	30	76.9	23.1
10	1000.000	8	20.51	38	97.4	2.6	38	97.4	2.6
11	1500.000	1	2.56	39	100.0	0.0	39	100.0	0.0

B	T	H	N	L	G	OTHER	UNQUAL	ANAL	READ	
0	0	0	0	0	0	0	39	39	39	VALUES
0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0			PERCENT

MIN	MAX	AMEAN	SD	GMEAN	GD	VALUES
20.000	1500.00	552.308	360.41	388.384	2.79	39



Each increment (each X or I plotted) = 0.500 %

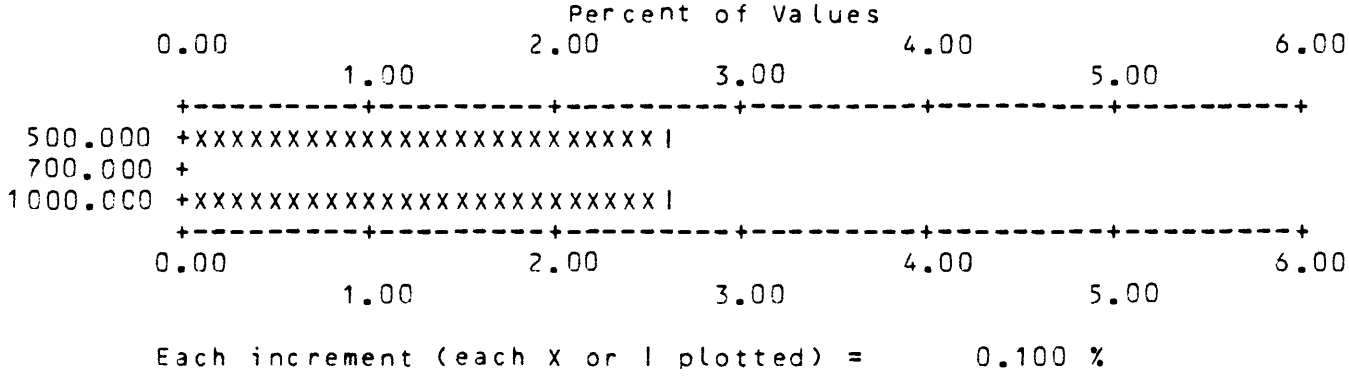
Table 12 Frequency tables and histograms for nonmagnetic heavy-mineral concentrate samples - (continued)

S-ZN

	VALUE	NO.	%	CUM.	CUM. %		TOT CUM	TOT CUM %	
1	500.000	1	2.56	1	2.6	97.4	38	97.4	2.6
2	1000.000	1	2.56	2	5.1	94.9	39	100.0	0.0

B	T	H	N	L	G	OTHER	UNQUAL	ANAL	READ	
0	0	0	37	0	0	0	2	39	39	VALUES
0.0	0.0	0.0	94.9	0.0	0.0	0.0	5.1			PERCENT

MIN	MAX	AMEAN	SD	GMEAN	GD	VALUES
500.000	1000.00	750.000	353.55	707.107	1.63	2
250.000	1000.00	275.641	125.59	263.692	1.28	39



Each increment (each X or I plotted) = 0.100 %

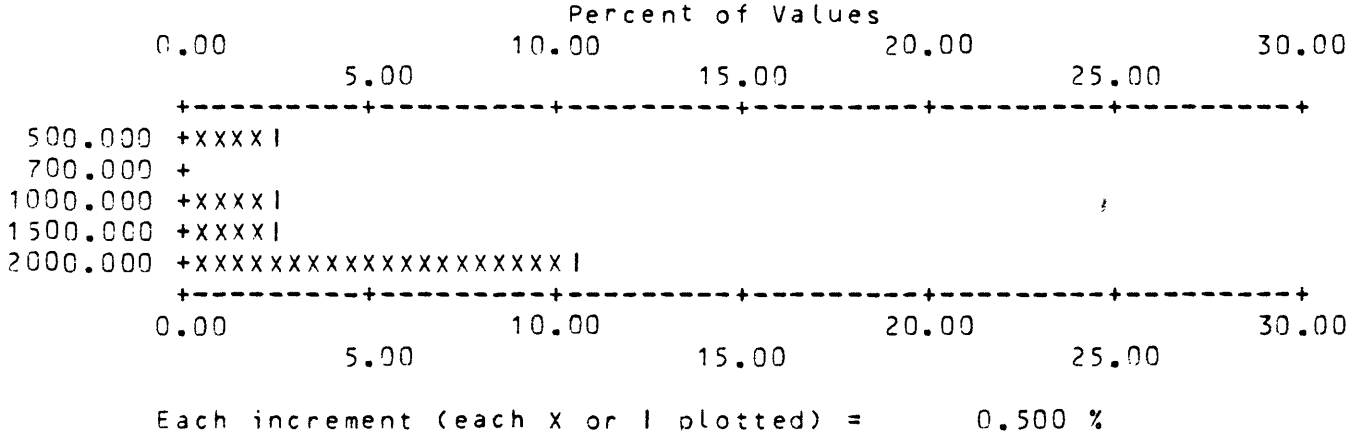
Table 12 Frequency tables and histograms for nonmagnetic heavy-mineral concentrate samples - (continued)

S-ZR

	VALUE	NO.	%	CUM.	CUM. %		TOT CUM	TOT CUM %	
1	500.000	1	2.56	1	2.6	97.4	1	2.6	97.4
2	1000.000	1	2.56	2	5.1	94.9	2	5.1	94.9
3	1500.000	1	2.56	3	7.7	92.3	3	7.7	92.3
4	2000.000	4	10.26	7	17.9	82.1	7	17.9	82.1

B	T	H	N	L	G	OTHER	UNQUAL	ANAL	READ	
0	0	0	0	0	32	0	7	39	39	VALUES
0.0	0.0	0.0	0.0	0.0	82.1	0.0	17.9			PERCENT

MIN	MAX	AMEAN	SD	GMEAN	GD	VALUES
500.000	2000.00	1571.429	607.49	1426.162	1.70	7
500.000	4000.00	3564.103	974.54	3324.063	1.57	39



Each increment (each X or I plotted) = 0.500 %