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RESULTS OF STREAM-SEDIMENT SAMPLING IN THE WESTERN CANDLE AND SOUTHERN SELAWIK QUADRANGLES, ALASKA

By

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Introduction

Analytical data for stream-sediment samples collected in the western portion of the Candle Quadrangle and in the southern portion of the Selawik Quadrangle are given in this report. A statistical treatment of these data is also presented.

The samples were collected during the summers of 1967 and 1968 during investigations conducted as part of the Geological Survey's Heavy Metals program. These data supplement Geological Survey Circular 614 which reports selected data of economic interest from the Granite Mountain area in the western portion of the Candle Quadrangle (Miller and Elliott, 1969).

The geologic setting of the Granite Mountain area has been briefly summarized in Geological Survey Circular 614. Regional geologic maps of both the Candle and the Selawik Quadrangles have been published at a scale of 1/250,000 (Patton, 1967, and Patton and Miller, 1968). Other references pertaining to the geology of this region are given with the two Regional Geologic Maps and in the Circular.

Stream-sediment analyses

Procedures

Standard procedures were followed in the collection and preparation of the stream-sediment samples. Where possible, the sample was collected from the active stream channel; where this was not possible, the sample was collected from higher level stream deposits adjacent to the active channel. The samples were dried, sieved, and the minus 80 mesh fractions were analyzed for 29 elements by the six-step semiquantitative spectrographic method and for gold by atomic absorption. The spectrographic analyses were reported in percentage (pct) or parts per million (ppm) to the nearest number in the series 0.5, 0.7, 1.0, 1.5, 2, 3, 5, 7, 10, 15, and so on. The precision of a reported value is approximately plus 100 percent or minus 50 percent. Minimum limits of detectability for the several elements are given on page 8 at the beginning of the analytical data. Semiquantitative spectrographic analyses were done by K. J. Curry, E. E. Martinez, and J. M. Motooka, and atomic absorption analyses for gold were done by R. L. Miller and W. W. Vaughn.

There was a strong sampling bias in this group of samples because streams draining areas of known or suspected mineralization were sampled at a greater density than other streams.

Presentation of data

Locations of the 312 stream-sediment samples are shown on figure 1. The numbering runs roughly from north to south by drainage area, and within each drainage area generally from headwaters downstream. The sample numbers used in the tables are the same as the map location numbers.

The results of the stream sediment sampling program in the Candle and Selawik Quadrangles have been processed by means of a computer program known as GEOSUM. The GEOSUM program is designed primarily for summarizing and tabulating geochemical data--especially data from semiquantitative spectrographic analyses (commonly referred to as 6-step spectrographic analyses) by the laboratories of the U. S. Geological Survey. The program output consists of: (a) a listing of the data, (b) histograms and cumulative frequency distributions[1], and (c) a statistical summary which includes geometric means and geometric deviations.

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[1] The frequency table and histogram for gold have been omitted since the classes used in calculating these tables are those used in the semiquantitative spectrographic method. Gold, however, was analyzed by atomic absorption methods and is reported as a quantitative value. Gold was found in only 4 out of 312 samples (1.3%).

Results

Examination of the histograms of the various elements indicates that most of the elements, for which data are available, have either a roughly log-normal frequency distribution or a bi-modal frequency distribution. Calcium, nickel, and vanadium are good examples of the log-normal type of distribution; and boron, cobalt, and manganese may be cited as examples of elements with a bi-modal distribution.

The bi-modal frequency distribution of some of the elements is probably related to local enrichment of these elements in areas of mineralization, such as the Quartz Creek and upper Peace River areas, which were heavily sampled. The lower mode then may represent an approximation of the normal regional mode for the element, and the upper mode may represent the mode of the element within areas of mineralization.

Histograms were replotted for 179 samples representing all the samples minus the Quartz Creek and upper Peace River samples, two areas of known mineralization. Histograms were also replotted for 86 samples from the Quartz Creek area. For elements having previously shown a bi-modal distribution, histograms from the first group of samples generally showed a marked reduction of the higher mode and a similar increase of the lower mode. Histograms from the second group of samples showed just the opposite relation.

Anomalous values are tentatively suggested for several elements of potential economic interest as follows: Ag, .5 ppm; B, 100 ppm; Co, 50 ppm; Cu, 100 ppm; Mo, 10 ppm; Pb, 70 ppm; and Sn, 10 ppm. Because of the relatively high limits of detectability of antimony, arsenic, bismuth, tungsten, and zinc, any reported value is regarded as significant.

These anomalous values were selected largely on the basis of the histograms. However, it should be emphasized that sediment sampling in these areas is of a reconnaissance nature rather than systematic, and the initial sampling bias strongly influences the apparent frequency distribution as well as other statistical parameters. Thus, the selection of anomalous values remains subjective and interpretive on the part of the writers rather than statistically rigorous.

Anomalous areas

Stream-sediment samples from several areas show anomalous concentrations of one or more elements of potential economic interest. The more significant of these areas, the Quartz Creek, upper Peace River, and Bear Creek areas, have been discussed (Miller and Elliott, 1969). Other anomalous areas and the elements which define them will be briefly listed. Many of the sediment samples (1-38) from several small streams on the north flank of the Selawik Hills have slightly anomalous concentrations of lead (18 samples with 70 ppm and 6 samples with 100 ppm), and one sample, locality 32, contained 300 ppm lead, 200 ppm zinc, and 3 ppm silver. At bedrock locality X, near sediment locality 32, minor amounts of disseminated galena, sphalerite, and pyrite were noted in quartz-calcite veins and in pink syenite. Composite grab samples of the sulfide-bearing rock contained up to 2 percent lead and up to 1 percent zinc, but the extent of the mineralized area could not be determined due to poor exposure.

Beryllium was detected in concentrations of 10 and 15 ppm in four sediment samples (44, 45, 48, and 51) from small streams on either side of the ridge south of Clem Mountain.

One sediment sample (59) from Hunter Creek, just above the Left Fork, contained 50 ppm tungsten and 30 ppm molybdenum.

Anomalous amounts of lead were reported in eight sediment samples (290-297) from a stream[1] on the east side of Granite Mountain (2 samples with 70 ppm, 3 samples with 100 ppm, and 3 samples with 150 ppm).

There are other occurrences of values, for one or more elements, above their designated anomalous concentrations, but these values are neither remarkably high nor is there any particularly significant grouping of elements or sample localities.

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[1]This stream is labeled "Boulder Creek" on the 1:250,000 scale Candle quadrangle map and "Anzac Creek" on the 1:63,300 scale quadrangle map.

References cited

Miller, T. P., and Elliott, R. L., 1969, Metalliferous deposits near Granite Mountain, eastern Seward Peninsula, Alaska: U.S. Geol. Survey Circ. 614, 19 p.

Patton, W. W., Jr., 1967, Regional geologic map of the Candle quadrangle, Alaska: U.S. Geol. Survey Misc. Geol. Inv. Map I-492, scale 1:250,000.

Patton, W. W., Jr., and Miller, T. P., 1968, Regional geologic map of the Selawik and southeastern Baird Mountains quadrangles, Alaska: U.S. Geol. Survey Misc. Geol. Inv. Map I-530, scale 1:250,000.

Specified limits of detection

FE PCT	MG PCT	CA PCT	TI PCT	MN PPM	AG PPM	AS PPM	AU PPM	B PPM	BA PPM
0.05000	0.02000	0.05000	0.00100	10.00000	0.50000	200.00000	0.02000	10.00000	5.00000

BE PPM	BI PPM	CO PPM	CR PPM	CU PPM	LA PPM	MO PPM	NB PPM	NI PPM	PB PPM
1.00000	10.00000	5.00000	5.00000	5.00000	20.00000	5.00000	10.00000	5.00000	10.00000

SB PPM	SC PPM	SN PPM	SR PPM	V PPM	W PPM	Y PPM	ZN PPM	ZR PPM
100.00000	5.00000	10.00000	100.00000	10.00000	50.00000	10.00000	200.00000	10.00000

N = Not detected

L = Less than specified limit of detection

G = Greater than value shown

H = Interference

B = Blank

SEDIMENT SAMPLES WEST ALASKA*

SAMPLE	FE PCT	MG PCT	CA PCT	TI PCT	MN PPM	AG PPM	AS PPM	AU PPM	B PPM	BA PPM
1	2.0000	0.5000	0.7000	0.5000	300.0000	0.0 N	0.0 N	0.0 N	50.0000	300.0000
2	10.0000	2.0000	2.0000	1.0000	3000.0000	0.0 N	0.0 N	0.0200	10.0000	200.0000
3	2.0000	0.7000	1.0000	0.3000	300.0000	0.0 N	0.0 N	0.1000	0.0 L	3000.0000
4	5.0000	1.5000	1.5000	0.5000	700.0000	0.0 N	0.0 N	0.0 N	15.0000	3000.0000
5	7.0000	2.0000	2.0000	0.7000	500.0000	0.0 L	0.0 N	0.0 N	20.0000	5000.0000
6	5.0000	1.0000	1.5000	0.5000	700.0000	0.0 N	0.0 N	0.0 N	15.0000	3000.0000
7	3.0000	0.7000	0.7000	0.2000	300.0000	0.0 N	0.0 N	0.0 N	10.0000	5000.0000
8	5.0000	2.0000	2.0000	0.7000	500.0000	0.0 N	0.0 N	0.0 N	20.0000	3000.0000
9	3.0000	1.0000	1.5000	0.3000	300.0000	0.0 N	0.0 N	0.0 N	15.0000	5000.0000
10	7.0000	2.0000	2.0000	0.7000	1000.0000	0.0 N	0.0 N	0.0 N	15.0000	5000.0000
11	5.0000	0.1000	1.0000	0.5000	700.0000	0.0 N	0.0 N	0.0 N	10.0000	5000.0000
12	5.0000	1.0000	1.0000	0.5000	700.0000	0.0 N	0.0 N	0.0 N	0.0 L	3000.0000
13	3.0000	0.5000	0.7000	0.3000	500.0000	0.0 N	0.0 N	0.0 N	10.0000	300.0000
14	3.0000	0.7000	0.7000	0.3000	500.0000	0.0 N	0.0 N	0.0 N	15.0000	500.0000
15	5.0000	1.0000	1.5000	0.3000	700.0000	0.0 N	0.0 N	0.0 N	10.0000	1500.0000
16	3.0000	1.0000	1.5000	0.2000	500.0000	0.0 N	0.0 N	0.0 N	10.0000	2000.0000
17	7.0000	0.7000	0.5000	0.3000	700.0000	0.0 N	0.0 N	0.0 N	0.0 L	1000.0000
18	7.0000	2.0000	5.0000	0.5000	700.0000	0.0 N	0.0 N	0.0 N	15.0000	5000.0000
19	5.0000	1.5000	2.0000	0.3000	700.0000	0.0 N	0.0 N	0.0 N	10.0000	5000.0000G
20	5.0000	1.5000	2.0000	0.3000	700.0000	0.0 N	0.0 N	0.0 N	0.0 L	5000.0000
21	7.0000	1.5000	1.5000	0.5000	500.0000	0.0 N	0.0 N	0.0 N	10.0000	5000.0000
22	7.0000	1.5000	2.0000	0.7000	700.0000	0.0 N	0.0 N	0.0 N	0.0 L	5000.0000
23	7.0000	2.0000	2.0000	0.5000	700.0000	0.0 N	0.0 N	0.0 N	10.0000	5000.0000
24	5.0000	1.0000	1.0000	0.5000	700.0000	0.0 N	0.0 N	0.0 N	15.0000	1500.0000
25	7.0000	2.0000	1.0000	0.7000	700.0000	0.0 N	0.0 N	0.0 N	10.0000	3000.0000
26	5.0000	1.5000	1.5000	0.5000	700.0000	0.0 N	0.0 N	0.0 N	0.0 L	5000.0000
27	5.0000	1.5000	1.5000	0.5000	700.0000	0.0 N	0.0 N	0.0 N	0.0 L	5000.0000
28	5.0000	1.5000	2.0000	0.7000	700.0000	0.0 N	0.0 N	0.0 N	0.0 L	3000.0000
29	3.0000	1.5000	1.5000	0.3000	500.0000	0.0 N	0.0 N	0.0 N	0.0 L	3000.0000
30	3.0000	0.7000	0.7000	0.5000	300.0000	0.0 N	0.0 N	0.0 N	0.0 L	3000.0000
31	5.0000	0.7000	0.5000	0.3000	700.0000	0.0 N	0.0 N	0.0 N	0.0 L	1500.0000
32	7.0000	1.0000	0.7000	0.7000	1500.0000	3.0000	0.0 N	0.0 N	10.0000	1500.0000
33	7.0000	1.0000	1.0000	0.7000	500.0000	0.0 N	0.0 N	0.0 N	20.0000	1500.0000
34	10.0000	3.0000	3.0000	0.7000	700.0000	0.0 N	0.0 N	0.0 N	10.0000	2000.0000
35	5.0000	0.7000	0.7000	0.5000	700.0000	0.0 N	0.0 N	0.0 N	0.0 L	1500.0000
36	5.0000	0.7000	0.7000	0.5000	300.0000	0.0 N	0.0 N	0.0 N	20.0000	1000.0000
37	5.0000	1.0000	1.0000	0.5000	700.0000	0.0 N	0.0 N	0.0 N	30.0000	1500.0000
38	5.0000	1.0000	1.0000	0.5000	700.0000	0.0 N	0.0 N	0.0 N	10.0000	2000.0000
39	10.0000	2.0000	5.0000	1.0000	700.0000	0.0 N	0.0 N	0.0 N	50.0000	1500.0000
40	5.0000	1.0000	0.5000	0.1500	200.0000	0.0 L	0.0 L	0.0 N	30.0000	500.0000
41	7.0000	1.5000	1.0000	0.3000	700.0000	0.0 N	0.0 N	0.0 N	50.0000	1000.0000
42	7.0000	1.5000	0.5000	0.5000	500.0000	0.0 N	0.0 L	0.0 N	50.0000	700.0000
43	7.0000	1.5000	0.5000	0.3000	700.0000	0.0 N	0.0 L	0.0 N	50.0000	700.0000
44	10.0000	0.5000	0.5000	0.1500	200.0000	0.0 N	0.0 N	0.0 N	30.0000	700.0000
45	2.0000	0.7000	1.0000	0.1500	150.0000	0.0 L	0.0 L	0.0 N	20.0000	700.0000
46	7.0000	1.0000	1.0000	0.3000	700.0000	0.0 L	0.0 N	0.0 N	30.0000	1500.0000
47	5.0000	1.0000	1.0000	0.3000	500.0000	0.0 N	0.0 L	0.0 N	30.0000	1000.0000
48	5.0000	0.7000	2.0000	0.3000	700.0000	0.0 N	0.0 N	0.0 N	30.0000	1000.0000
49	3.0000	0.7000	1.0000	0.2000	500.0000	0.0 L	0.0 L	0.0 N	15.0000	1000.0000
50	7.0000	2.0000	2.0000	1.0000	700.0000	0.0 N	0.0 N	0.0 N	50.0000	1000.0000

*Note that the right-most zero digits of each data value may or may not be significant.

SEDIMENT SAMPLES WEST ALASKA

SAMPLE	BE PPM	BI PPM	CD PPM	CR PPM	CU PPM	LA PPM	MO PPM	NB PPM	NI PPM	PB PPM
1	0.0 L	0.0 N	5.0000	70.0000	20.0000	0.0 N	0.0 N	0.0 N	15.0000	20.0000
2	0.0 L	0.0 N	50.0000	70.0000	70.0000	0.0 N	0.0 N	0.0 N	50.0000	15.0000
3	0.0 L	0.0 N	5.0000	50.0000	0.0 L	30.0000	0.0 N	20.0000	15.0000	30.0000
4	1.5000	0.0 N	10.0000	100.0000	20.0000	50.0000	0.0 L	30.0000	20.0000	70.0000
5	3.0000	0.0 N	20.0000	100.0000	20.0000	150.0000	0.0 N	50.0000	50.0000	100.0000
6	1.5000	0.0 N	15.0000	50.0000	30.0000	100.0000	0.0 L	50.0000	20.0000	100.0000
7	1.0000	0.0 N	7.0000	30.0000	20.0000	50.0000	0.0 N	10.0000	15.0000	100.0000
8	3.0000	0.0 N	10.0000	100.0000	30.0000	70.0000	0.0 N	30.0000	50.0000	70.0000
9	2.0000	0.0 N	7.0000	50.0000	20.0000	30.0000	0.0 N	10.0000	20.0000	70.0000
10	3.0000	0.0 N	20.0000	100.0000	30.0000	100.0000	0.0 N	30.0000	30.0000	70.0000
11	2.0000	0.0 N	10.0000	30.0000	20.0000	70.0000	0.0 N	20.0000	20.0000	70.0000
12	2.0000	0.0 N	10.0000	100.0000	20.0000	50.0000	0.0 N	30.0000	20.0000	15.0000
13	1.0000	0.0 N	5.0000	30.0000	20.0000	20.0000	0.0 N	0.0 L	15.0000	20.0000
14	1.5000	0.0 N	7.0000	50.0000	20.0000	20.0000	0.0 N	0.0 L	15.0000	20.0000
15	2.0000	0.0 N	10.0000	70.0000	20.0000	70.0000	0.0 N	20.0000	30.0000	30.0000
16	2.0000	0.0 N	10.0000	50.0000	20.0000	50.0000	0.0 N	10.0000	20.0000	50.0000
17	0.0 L	0.0 N	15.0000	70.0000	20.0000	20.0000	0.0 N	15.0000	15.0000	20.0000
18	2.0000	0.0 N	20.0000	150.0000	50.0000	100.0000	0.0 N	15.0000	50.0000	70.0000
19	1.5000	0.0 N	10.0000	100.0000	20.0000	70.0000	0.0 N	15.0000	20.0000	70.0000
20	1.0000	0.0 N	15.0000	100.0000	30.0000	70.0000	0.0 N	10.0000	30.0000	70.0000
21	1.5000	0.0 N	10.0000	70.0000	30.0000	100.0000	0.0 N	10.0000	30.0000	70.0000
22	1.5000	0.0 N	15.0000	150.0000	30.0000	100.0000	0.0 N	20.0000	30.0000	70.0000
23	2.0000	0.0 N	15.0000	150.0000	20.0000	50.0000	0.0 N	20.0000	50.0000	70.0000
24	1.0000	0.0 N	15.0000	100.0000	30.0000	20.0000	0.0 N	10.0000	30.0000	30.0000
25	1.0000	0.0 N	15.0000	150.0000	20.0000	30.0000	0.0 N	30.0000	50.0000	50.0000
26	1.0000	0.0 N	15.0000	150.0000	30.0000	30.0000	0.0 N	20.0000	50.0000	70.0000
27	0.0 L	0.0 N	15.0000	70.0000	20.0000	50.0000	0.0 N	10.0000	20.0000	100.0000
28	0.0 L	0.0 N	20.0000	150.0000	30.0000	50.0000	0.0 N	15.0000	30.0000	70.0000
29	0.0 L	0.0 N	10.0000	100.0000	30.0000	30.0000	0.0 N	10.0000	20.0000	70.0000
30	0.0 L	0.0 N	7.0000	30.0000	15.0000	50.0000	0.0 N	50.0000	50.0000	100.0000
31	1.5000	0.0 N	15.0000	50.0000	30.0000	150.0000	0.0 N	20.0000	20.0000	100.0000
32	3.0000	0.0 N	20.0000	70.0000	30.0000	30.0000	0.0 N	30.0000	30.0000	300.0000
33	2.0000	0.0 N	20.0000	70.0000	30.0000	50.0000	0.0 N	20.0000	30.0000	50.0000
34	3.0000	0.0 N	20.0000	150.0000	50.0000	100.0000	0.0 N	30.0000	50.0000	50.0000
35	1.5000	0.0 N	10.0000	30.0000	30.0000	0.0 L	0.0 N	10.0000	20.0000	70.0000
36	3.0000	0.0 N	7.0000	100.0000	20.0000	50.0000	0.0 N	20.0000	20.0000	70.0000
37	3.0000	0.0 N	10.0000	70.0000	30.0000	20.0000	0.0 N	20.0000	30.0000	70.0000
38	1.5000	0.0 N	15.0000	70.0000	30.0000	20.0000	0.0 N	20.0000	30.0000	70.0000
39	2.0000	0.0 N	20.0000	300.0000	15.0000	100.0000	0.0 N	15.0000	100.0000	50.0000
40	7.0000	0.0 L	10.0000	70.0000	10.0000	50.0000	0.0 L	10.0000	30.0000	100.0000
41	7.0000	0.0 N	15.0000	70.0000	0.0 L	70.0000	0.0 L	30.0000	30.0000	50.0000
42	3.0000	0.0 L	15.0000	150.0000	20.0000	70.0000	0.0 L	15.0000	50.0000	50.0000
43	3.0000	0.0 L	15.0000	150.0000	15.0000	100.0000	0.0 L	20.0000	50.0000	50.0000
44	10.0000	0.0 N	10.0000	30.0000	0.0 L	50.0000	0.0 N	0.0 L	20.0000	70.0000
45	10.0000	0.0 L	10.0000	100.0000	0.0 L	30.0000	0.0 N	0.0 L	20.0000	70.0000
46	7.0000	0.0 N	15.0000	30.0000	0.0 L	50.0000	0.0 N	0.0 L	50.0000	100.0000
47	5.0000	0.0 N	10.0000	50.0000	0.0 L	50.0000	0.0 N	10.0000	50.0000	100.0000
48	15.0000	0.0 N	15.0000	50.0000	5.0000	50.0000	0.0 N	10.0000	70.0000	50.0000
49	5.0000	0.0 L	10.0000	30.0000	5.0000	70.0000	0.0 N	10.0000	30.0000	70.0000
50	3.0000	0.0 N	15.0000N	150.0000	30.0000	30.0000	0.0 N	10.0000	100.0000	100.0000

SEDIMENT SAMPLES WEST ALASKA

SAMPLE	SB PPM	SC PPM	SN PPM	SR PPM	V PPM	W PPM	Y PPM	ZN PPM	ZR PPM
1	0.0 N	15.0000	0.0 N	100.0000	200.0000	0.0 N	20.0000	0.0 N	200.0000
2	0.0 N	30.0000	0.0 N	100.0000	300.0000	0.0 N	30.0000	0.0 N	200.0000
3	0.0 N	5.0000	0.0 L	1000.0000	100.0000	0.0 N	20.0000	0.0 N	200.0000
4	0.0 N	7.0000	10.0000	1000.0000	200.0000	0.0 N	30.0000	0.0 N	300.0000
5	0.0 N	15.0000	10.0000	1500.0000	200.0000	0.0 N	50.0000	0.0 N	300.0000
6	0.0 N	10.0000	0.0 L	1500.0000	200.0000	0.0 N	30.0000	0.0 N	300.0000
7	0.0 N	0.0 L	0.0 N	1500.0000	100.0000	0.0 N	15.0000	0.0 N	100.0000
8	0.0 N	15.0000	10.0000	1000.0000	200.0000	0.0 N	50.0000	0.0 N	200.0000
9	0.0 N	5.0000	0.0 L	1500.0000	150.0000	0.0 N	20.0000	0.0 N	150.0000
10	0.0 N	10.0000	10.0000	1500.0000	300.0000	0.0 N	50.0000	0.0 N	300.0000
11	0.0 N	5.0000	0.0 L	1000.0000	200.0000	0.0 N	30.0000	0.0 N	200.0000
12	0.0 N	15.0000	0.0 L	500.0000	150.0000	0.0 N	50.0000	0.0 N	300.0000
13	0.0 N	10.0000	0.0 N	100.0000	150.0000	0.0 N	30.0000	0.0 N	200.0000
14	0.0 N	15.0000	0.0 N	150.0000	150.0000	0.0 N	30.0000	0.0 N	150.0000
15	0.0 N	10.0000	0.0 L	700.0000	200.0000	0.0 N	30.0000	0.0 N	300.0000
16	0.0 N	7.0000	0.0 L	1000.0000	150.0000	0.0 N	15.0000	0.0 N	200.0000
17	0.0 N	15.0000	0.0 N	300.0000	200.0000	0.0 N	30.0000	0.0 N	200.0000
18	0.0 N	15.0000	0.0 L	1500.0000	300.0000	0.0 N	30.0000	0.0 N	500.0000
19	0.0 N	7.0000	0.0 L	2000.0000	200.0000	0.0 N	20.0000	0.0 N	300.0000
20	0.0 N	7.0000	0.0 L	1500.0000	300.0000	0.0 N	20.0000	0.0 N	200.0000
21	0.0 N	10.0000	0.0 L	1500.0000	300.0000	0.0 N	30.0000	0.0 N	200.0000
22	0.0 N	15.0000	0.0 L	1500.0000	200.0000	0.0 N	30.0000	0.0 N	300.0000
23	0.0 N	10.0000	0.0 L	1000.0000	200.0000	0.0 N	30.0000	0.0 N	200.0000
24	0.0 N	15.0000	0.0 L	300.0000	200.0000	0.0 N	20.0000	0.0 N	200.0000
25	0.0 N	15.0000	0.0 L	500.0000	200.0000	0.0 N	30.0000	0.0 N	300.0000
26	0.0 N	10.0000	0.0 L	1000.0000	200.0000	0.0 N	30.0000	0.0 N	200.0000
27	0.0 N	10.0000	0.0 L	1500.0000	200.0000	0.0 N	30.0000	0.0 N	150.0000
28	0.0 N	15.0000	0.0 N	1000.0000	300.0000	0.0 N	30.0000	0.0 N	200.0000
29	0.0 N	7.0000	0.0 L	1000.0000	200.0000	0.0 N	20.0000	0.0 N	150.0000
30	0.0 N	5.0000	0.0 L	1000.0000	200.0000	0.0 N	20.0000	0.0 N	200.0000
31	0.0 N	10.0000	0.0 N	300.0000	150.0000	0.0 N	20.0000	0.0 N	200.0000
32	0.0 N	15.0000	0.0 N	300.0000	300.0000	0.0 N	20.0000	200.0000	200.0000
33	0.0 N	15.0000	0.0 L	300.0000	200.0000	0.0 N	30.0000	0.0 N	150.0000
34	0.0 N	20.0000	0.0 L	1000.0000	300.0000	0.0 N	30.0000	0.0 N	300.0000
35	150.0000	7.0000	0.0 N	300.0000	150.0000	0.0 N	10.0000	0.0 N	150.0000
36	0.0 N	10.0000	0.0 N	200.0000	150.0000	0.0 N	20.0000	0.0 N	300.0000
37	0.0 N	10.0000	0.0 N	500.0000	200.0000	0.0 N	30.0000	0.0 N	300.0000
38	0.0 N	10.0000	0.0 N	700.0000	200.0000	0.0 N	15.0000	0.0 N	200.0000
39	0.0 N	50.0000	0.0 N	1000.0000	150.0000	0.0 N	50.0000	0.0 N	300.0000
40	0.0 N	10.0000	30.0000	300.0000	100.0000	0.0 N	20.0000	0.0 N	150.0000
41	0.0 N	15.0000	0.0 L	500.0000	70.0000	0.0 N	15.0000	0.0 N	200.0000
42	0.0 N	20.0000	0.0 N	100.0000	200.0000	0.0 N	50.0000	0.0 N	300.0000
43	0.0 N	20.0000	0.0 N	150.0000	150.0000	0.0 N	50.0000	0.0 N	200.0000
44	0.0 N	7.0000	0.0 N	500.0000	70.0000	0.0 N	20.0000	0.0 N	100.0000
45	0.0 N	7.0000	0.0 L	500.0000	30.0000	0.0 N	10.0000	0.0 N	100.0000
46	0.0 N	7.0000	10.0000	700.0000	50.0000	0.0 N	15.0000	0.0 N	150.0000
47	0.0 N	7.0000	15.0000	500.0000	50.0000	0.0 N	20.0000	0.0 N	200.0000
48	0.0 N	7.0000	0.0 L	700.0000	70.0000	0.0 N	30.0000	0.0 N	200.0000
49	0.0 N	7.0000	15.0000	500.0000	50.0000	0.0 N	30.0000	0.0 N	100.0000
50	0.0 N	15.0000	0.0 N	300.0000	200.0000	0.0 N	50.0000	0.0 N	300.0000

SEDIMENT SAMPLES WEST ALASKA

SAMPLE	FE PCT	MG PCT	CA PCT	TI PCT	MN PPM	AG PPM	AS PPM	AU PPM	B PPM	BA PPM
51	10.0000	5.0000	5.0000	0.7000	1500.0000	0.0 N	0.0 N	0.0 N	30.0000	1500.0000
52	5.0000	3.0000	5.0000	0.3000	700.0000	0.0 N	0.0 L	0.0 N	50.0000	2000.0000
53	5.0000	3.0000	5.0000	0.5000	700.0000	0.0 N	0.0 N	0.0 N	50.0000	1500.0000
54	15.0000	2.0000	3.0000	1.0000G	1000.0000	0.0 N	0.0 N	0.0 N	30.0000	700.0000
55	5.0000	1.0000	2.0000	1.0000	700.0000	0.0 N	0.0 N	0.0 N	20.0000	1000.0000
56	5.0000	1.0000	2.0000	1.0000	500.0000	0.0 N	0.0 N	0.0 N	0.0 N	700.0000
57	10.0000	1.5000	2.0000	1.0000	700.0000	0.0 N	0.0 N	0.0 N	15.0000	1000.0000
58	15.0000	3.0000	5.0000	1.0000G	700.0000	0.0 N	0.0 N	0.0 N	10.0000	500.0000
59	15.0000	3.0000	5.0000	1.0000	1000.0000	0.0 N	0.0 N	0.0 N	50.0000	700.0000
60	7.0000	1.5000	1.5000	1.0000	1000.0000	0.0 N	0.0 N	0.0 N	70.0000	500.0000
61	10.0000	2.0000	3.0000	1.0000	1000.0000	0.0 N	0.0 N	0.0 N	50.0000	200.0000
62	5.0000	1.5000	3.0000	0.5000	1000.0000	0.0 N	0.0 N	0.0 N	20.0000	500.0000
63	7.0000	2.0000	3.0000	1.0000	700.0000	0.0 N	0.0 N	0.0 N	20.0000	300.0000
64	15.0000	3.0000	5.0000	1.0000G	200.0000	0.0 N	0.0 N	0.0 N	20.0000	150.0000
65	10.0000	2.0000	3.0000	1.0000	700.0000	0.0 N	0.0 N	0.0 N	30.0000	300.0000
66	10.0000	3.0000	3.0000	1.0000	700.0000	0.0 N	0.0 N	0.0 N	100.0000	500.0000
67	7.0000	1.5000	3.0000	1.0000	1000.0000	0.0 N	0.0 N	0.0 N	100.0000	700.0000
68	7.0000	2.0000	3.0000	0.7000	1000.0000	0.0 N	0.0 N	0.0 N	70.0000	1000.0000
69	10.0000	3.0000	2.0000	1.0000	1000.0000	0.0 N	0.0 N	0.0 N	20.0000	500.0000
70	15.0000	3.0000	5.0000	1.0000G	2000.0000	0.0 N	0.0 N	0.0 N	200.0000	1000.0000
71	5.0000	2.0000	2.0000	0.7000	500.0000	0.7000	0.0 N	0.0 N	30.0000	700.0000
72	7.0000	2.0000	2.0000	1.0000	700.0000	0.0 N	0.0 N	0.0 N	70.0000	700.0000
73	10.0000	3.0000	5.0000	1.0000G	200.0000	0.0 N	0.0 N	0.0 N	10.0000	700.0000
74	7.0000	1.5000	1.5000	0.7000	1000.0000	0.0 N	0.0 L	0.0 N	20.0000	500.0000
75	7.0000	2.0000	2.0000	1.0000	1000.0000	0.0 N	0.0 N	0.0 N	30.0000	700.0000
76	10.0000	2.0000	3.0000	0.7000	1500.0000	0.0 N	0.0 N	0.0 N	30.0000	500.0000
77	5.0000	2.0000	3.0000	0.5000	700.0000	0.0 N	0.0 N	0.0 N	20.0000	500.0000
78	10.0000	2.0000	2.0000	0.5000	1000.0000	0.0 N	0.0 N	0.0 N	30.0000	700.0000
79	10.0000	3.0000	3.0000	0.7000	1000.0000	0.0 N	0.0 N	0.0 N	30.0000	1000.0000
80	10.0000	3.0000	3.0000	0.5000	1000.0000	0.0 N	0.0 N	0.0 N	15.0000	500.0000
81	15.0000	3.0000	3.0000	1.0000G	2000.0000	0.0 N	0.0 N	0.0 N	15.0000	150.0000
82	15.0000	7.0000	7.0000	1.0000G	1500.0000	0.0 N	0.0 N	0.0 N	30.0000	300.0000
83	15.0000	7.0000	7.0000	1.0000G	3000.0000	0.0 N	0.0 N	0.0 N	70.0000	700.0000
84	15.0000	3.0000	3.0000	1.0000	2000.0000	0.0 N	0.0 N	0.0 N	15.0000	300.0000
85	15.0000	3.0000	5.0000	0.7000	2000.0000	0.0 N	0.0 N	0.0 N	15.0000	1000.0000
86	15.0000	3.0000	3.0000	0.5000	1000.0000	0.0 N	0.0 N	0.0 N	20.0000	1000.0000
87	20.0000	7.0000	5.0000	1.0000G	2000.0000	0.0 N	0.0 N	0.0 N	30.0000	1500.0000
88	15.0000	7.0000	3.0000	1.0000G	1500.0000	0.0 N	0.0 N	0.0 N	20.0000	300.0000
89	20.0000	7.0000	7.0000	1.0000G	2000.0000	0.0 N	0.0 N	0.0 N	70.0000	300.0000
90	15.0000	7.0000	7.0000	1.0000G	1500.0000	0.0 N	0.0 N	0.0 N	30.0000	300.0000
91	10.0000	3.0000	2.0000	0.7000	1000.0000	0.0 N	0.0 N	0.0 N	30.0000	700.0000
92	7.0000	3.0000	2.0000	0.5000	1000.0000	0.0 N	0.0 N	0.0 N	50.0000	1000.0000
93	10.0000	3.0000	2.0000	0.5000	2000.0000	0.0 N	0.0 N	0.0 N	30.0000	1000.0000
94	10.0000	3.0000	3.0000	0.5000	3000.0000	0.0 N	0.0 N	0.0 N	30.0000	1500.0000
95	15.0000	3.0000	3.0000	0.7000	2000.0000	0.0 N	0.0 N	0.0 N	50.0000	1000.0000
96	10.0000	2.0000	3.0000	0.5000	1000.0000	0.0 N	0.0 N	0.0 N	30.0000	1000.0000
97	3.0000	0.7000	2.0000	0.3000	700.0000	0.0 N	0.0 N	0.0 N	50.0000	200.0000
98	10.0000	3.0000	3.0000	0.5000	1000.0000	0.7000	0.0 N	0.0 N	30.0000	1000.0000
99	10.0000	3.0000	2.0000	0.5000	1000.0000	0.0 N	0.0 N	0.0 N	30.0000	700.0000
100	15.0000	3.0000	3.0000	0.7000	2000.0000	0.0 N	0.0 N	0.0 N	70.0000	2000.0000

SEDIMENT SAMPLES WEST ALASKA

SAMPLE	BE PPM	BI PPM	CO PPM	CR PPM	CU PPM	LA PPM	MO PPM	NB PPM	NI PPM	PB PPM
51	15.0000	0.0 N	20.0000	100.0000	50.0000	700.0000	0.0 L	15.0000	70.0000	70.0000
52	3.0000	0.0 L	15.0000	100.0000	0.0 L	70.0000	0.0 N	10.0000	30.0000	70.0000
53	5.0000	0.0 L	15.0000	100.0000	10.0000	150.0000	0.0 N	20.0000	50.0000	70.0000
54	2.0000	0.0 N	15.0000	300.0000	30.0000	70.0000	0.0 N	10.0000	100.0000	20.0000
55	2.0000	0.0 N	15.0000	50.0000	30.0000	70.0000	0.0 N	30.0000	70.0000	100.0000
56	2.0000	0.0 N	15.0000	100.0000	0.0 L	70.0000	0.0 N	15.0000	100.0000	30.0000
57	3.0000	0.0 N	15.0000	200.0000	20.0000	50.0000	0.0 N	10.0000	150.0000	20.0000
58	0.0 N	0.0 N	20.0000	700.0000	30.0000	200.0000	0.0 N	20.0000	100.0000	10.0000
59	1.5000	0.0 N	20.0000	200.0000	20.0000	100.0000	30.0000	10.0000	150.0000	20.0000
60	0.0 L	0.0 N	20.0000	100.0000	15.0000	30.0000	0.0 N	10.0000	70.0000	30.0000
61	0.0 N	0.0 N	20.0000	100.0000	20.0000	0.0 L	0.0 N	0.0 L	70.0000	20.0000
62	3.0000	0.0 N	20.0000	50.0000	5.0000	20.0000	0.0 N	0.0 L	50.0000	30.0000
63	0.0 N	0.0 N	20.0000	100.0000	20.0000	20.0000	0.0 N	0.0 L	50.0000	30.0000
64	0.0 L	0.0 N	20.0000	200.0000	30.0000	20.0000	0.0 N	0.0 L	100.0000	10.0000
65	0.0 N	0.0 N	20.0000	100.0000	20.0000	20.0000	0.0 N	0.0 L	100.0000	20.0000
66	0.0 N	0.0 N	20.0000	150.0000	30.0000	30.0000	0.0 N	0.0 L	100.0000	20.0000
67	2.0000	0.0 N	7.0000	30.0000	0.0 L	20.0000	0.0 N	0.0 L	150.0000	10.0000
68	1.5000	0.0 N	15.0000	70.0000	15.0000	30.0000	0.0 N	0.0 L	70.0000	70.0000
69	0.0 N	0.0 N	30.0000	300.0000	50.0000	20.0000	0.0 N	0.0 L	70.0000	20.0000
70	1.5000	0.0 N	15.0000	70.0000	15.0000	100.0000	0.0 N	10.0000	200.0000	10.0000
71	1.5000	20.0000	30.0000	150.0000	15.0000	30.0000	0.0 N	10.0000	70.0000	30.0000
72	1.5000	0.0 N	50.0000	150.0000	50.0000	30.0000	0.0 N	10.0000	70.0000	15.0000
73	0.0 N	0.0 N	70.0000	1500.0000	15.0000	0.0 L	0.0 N	0.0 L	70.0000	0.0 N
74	1.0000	0.0 N	20.0000	100.0000	20.0000	0.0 L	0.0 L	10.0000	50.0000	30.0000
75	0.0 N	0.0 N	30.0000	100.0000	30.0000	20.0000	0.0 N	0.0 L	200.0000	100.0000
76	1.0000	0.0 N	20.0000	200.0000	30.0000	30.0000	0.0 L	10.0000	100.0000	20.0000
77	0.0 L	0.0 N	20.0000	1000.0000	70.0000	0.0 L	0.0 L	0.0 L	70.0000	20.0000
78	0.0 L	0.0 N	20.0000	150.0000	50.0000	0.0 L	0.0 L	0.0 L	70.0000	20.0000
79	0.0 N	0.0 N	20.0000	700.0000	100.0000	20.0000	0.0 N	0.0 L	70.0000	50.0000
80	0.0 N	0.0 N	20.0000	200.0000	70.0000	0.0 L	0.0 L	0.0 L	100.0000	0.0 L
81	0.0 N	0.0 N	50.0000	100.0000	50.0000	0.0 L	0.0 N	0.0 L	100.0000	30.0000
82	0.0 L	0.0 N	70.0000	700.0000	70.0000	20.0000	0.0 N	0.0 L	100.0000	15.0000
83	0.0 L	0.0 N	100.0000	700.0000	150.0000	0.0 L	0.0 N	0.0 L	150.0000	15.0000
84	0.0 N	0.0 N	20.0000	200.0000	100.0000	20.0000	0.0 N	0.0 L	150.0000	15.0000
85	0.0 N	0.0 N	100.0000	3000.0000	150.0000	0.0 L	0.0 N	0.0 L	150.0000	30.0000
86	0.0 N	0.0 N	20.0000	300.0000	100.0000	20.0000	0.0 N	0.0 L	150.0000	10.0000
87	0.0 L	0.0 N	100.0000	700.0000	150.0000	0.0 L	0.0 N	0.0 L	150.0000	30.0000
88	0.0 L	0.0 N	70.0000	700.0000	70.0000	0.0 L	0.0 N	0.0 L	100.0000	20.0000
89	0.0 L	0.0 N	70.0000	700.0000	100.0000	0.0 L	0.0 N	0.0 L	150.0000	15.0000
90	0.0 L	0.0 N	70.0000	700.0000	70.0000	0.0 L	0.0 N	0.0 L	100.0000	100.0000
91	0.0 N	0.0 N	20.0000	1500.0000	100.0000	0.0 L	0.0 N	0.0 L	100.0000	30.0000
92	0.0 N	0.0 N	20.0000	300.0000	100.0000	20.0000	0.0 N	0.0 L	100.0000	0.0 L
93	0.0 N	0.0 N	50.0000	300.0000	150.0000	20.0000	0.0 N	0.0 L	70.0000	50.0000
94	0.0 N	0.0 N	20.0000	150.0000	70.0000	20.0000	0.0 N	0.0 L	100.0000	15.0000
95	0.0 L	0.0 N	30.0000	200.0000	150.0000	20.0000	0.0 N	0.0 L	100.0000	70.0000
96	0.0 L	0.0 N	20.0000	300.0000	70.0000	20.0000	0.0 N	0.0 L	100.0000	50.0000
97	0.0 L	0.0 N	10.0000	100.0000	20.0000	30.0000	0.0 N	0.0 L	30.0000	50.0000
98	3.0000	0.0 N	20.0000	150.0000	70.0000	100.0000	0.0 N	10.0000	70.0000	100.0000
99	3.0000	0.0 N	15.0000	150.0000	50.0000	70.0000	0.0 N	0.0 L	70.0000	70.0000
100	1.0000	0.0 N	15.0000	100.0000	50.0000	50.0000	0.0 N	0.0 L	50.0000	150.0000

SEDIMENT SAMPLES WEST ALASKA

SAMPLE	SB PPM	SC PPM	SN PPM	SR PPM	V PPM	W PPM	Y PPM	ZN PPM	ZR PPM
51	0.0 N	30.0000	0.0 N	700.0000	150.0000	0.0 N	20.0000	0.0 N	150.0000
52	0.0 N	20.0000	0.0 N	1500.0000	150.0000	0.0 N	30.0000	0.0 N	70.0000
53	0.0 N	20.0000	15.0000	700.0000	100.0000	0.0 N	70.0000	0.0 N	70.0000
54	0.0 N	50.0000	0.0 N	500.0000	200.0000	0.0 N	50.0000	0.0 N	700.0000
55	0.0 N	15.0000	0.0 L	500.0000	100.0000	0.0 N	50.0000	0.0 N	300.0000
56	0.0 N	15.0000	0.0 N	500.0000	100.0000	0.0 N	50.0000	0.0 N	200.0000
57	0.0 N	15.0000	0.0 N	500.0000	200.0000	0.0 N	20.0000	0.0 N	500.0000
58	0.0 N	30.0000	0.0 N	500.0000	200.0000	0.0 N	200.0000	0.0 N	200.0000
59	0.0 N	100.0000	0.0 N	700.0000	500.0000	50.0000	150.0000	0.0 N	1000.0000
60	0.0 N	20.0000	0.0 N	100.0000	150.0000	0.0 N	30.0000	0.0 N	300.0000
61	0.0 N	30.0000	0.0 N	200.0000	200.0000	0.0 N	30.0000	0.0 N	200.0000
62	0.0 N	15.0000	0.0 N	700.0000	1000.0000	0.0 N	20.0000	0.0 N	70.0000
63	0.0 N	20.0000	0.0 N	300.0000	150.0000	0.0 N	30.0000	0.0 N	150.0000
64	0.0 N	50.0000	0.0 N	150.0000	300.0000	0.0 N	30.0000	0.0 N	300.0000
65	0.0 N	30.0000	0.0 N	300.0000	200.0000	0.0 N	30.0000	0.0 N	200.0000
66	0.0 N	30.0000	0.0 N	200.0000	300.0000	0.0 N	30.0000	0.0 N	300.0000
67	0.0 N	5.0000	0.0 N	300.0000	70.0000	0.0 N	15.0000	0.0 N	300.0000
68	0.0 N	15.0000	0.0 N	500.0000	150.0000	0.0 N	30.0000	0.0 N	500.0000
69	0.0 N	30.0000	20.0000	500.0000	200.0000	0.0 N	50.0000	0.0 N	200.0000
70	0.0 N	15.0000	0.0 N	700.0000	200.0000	0.0 N	100.0000	0.0 N	300.0000
71	0.0 N	15.0000	0.0 N	300.0000	150.0000	0.0 N	20.0000	0.0 N	150.0000
72	0.0 N	30.0000	0.0 N	200.0000	200.0000	0.0 N	50.0000	0.0 L	200.0000
73	0.0 N	50.0000	0.0 N	300.0000	500.0000	0.0 N	30.0000	0.0 N	150.0000
74	0.0 N	20.0000	0.0 N	200.0000	150.0000	0.0 N	30.0000	0.0 N	200.0000
75	0.0 N	30.0000	0.0 N	300.0000	200.0000	0.0 N	50.0000	0.0 N	200.0000
76	0.0 N	30.0000	0.0 N	300.0000	150.0000	0.0 N	30.0000	0.0 N	300.0000
77	0.0 N	20.0000	0.0 N	300.0000	150.0000	0.0 N	30.0000	0.0 L	70.0000
78	0.0 N	20.0000	0.0 N	100.0000	200.0000	0.0 N	15.0000	0.0 L	100.0000
79	0.0 N	30.0000	0.0 N	300.0000	300.0000	0.0 N	20.0000	0.0 N	100.0000
80	0.0 N	30.0000	0.0 N	150.0000	300.0000	0.0 N	15.0000	0.0 L	200.0000
81	0.0 N	50.0000	0.0 N	150.0000	500.0000	0.0 N	50.0000	0.0 N	100.0000
82	0.0 N	70.0000	0.0 N	300.0000	500.0000	0.0 N	30.0000	0.0 L	150.0000
83	0.0 N	70.0000	0.0 N	200.0000	700.0000	0.0 N	30.0000	0.0 N	200.0000
84	0.0 N	30.0000	0.0 N	300.0000	500.0000	0.0 N	30.0000	0.0 N	200.0000
85	0.0 N	100.0000	0.0 N	700.0000	500.0000	0.0 N	50.0000	0.0 L	200.0000
86	0.0 N	50.0000	0.0 N	300.0000	300.0000	0.0 N	20.0000	0.0 N	150.0000
87	0.0 N	70.0000	0.0 N	300.0000	1000.0000	0.0 N	30.0000	0.0 N	150.0000
88	0.0 N	50.0000	0.0 N	200.0000	700.0000	0.0 N	20.0000	0.0 N	150.0000
89	0.0 N	70.0000	0.0 N	100.0000	1000.0000	0.0 N	30.0000	0.0 N	200.0000
90	0.0 N	50.0000	0.0 N	300.0000	700.0000	0.0 N	30.0000	0.0 L	150.0000
91	0.0 N	30.0000	0.0 N	300.0000	300.0000	0.0 N	20.0000	0.0 N	150.0000
92	0.0 N	50.0000	0.0 N	300.0000	300.0000	0.0 N	15.0000	0.0 N	150.0000
93	0.0 N	50.0000	0.0 N	500.0000	300.0000	0.0 N	20.0000	0.0 N	150.0000
94	0.0 N	30.0000	0.0 N	0.0 L	300.0000	0.0 N	0.0 N	0.0 N	150.0000
95	0.0 N	50.0000	0.0 N	500.0000	500.0000	0.0 N	10.0000	0.0 N	200.0000
96	0.0 N	50.0000	0.0 N	500.0000	300.0000	0.0 N	30.0000	0.0 N	300.0000
97	0.0 N	15.0000	0.0 N	0.0 L	300.0000	0.0 N	30.0000	0.0 N	150.0000
98	0.0 N	20.0000	0.0 N	700.0000	200.0000	0.0 N	30.0000	0.0 L	200.0000
99	0.0 N	20.0000	0.0 N	500.0000	150.0000	0.0 N	30.0000	0.0 N	200.0000
100	0.0 N	15.0000	0.0 L	1500.0000	300.0000	0.0 N	30.0000	0.0 N	500.0000

SEDIMENT SAMPLES WEST ALASKA

SAMPLE	FE PCT	MG PCT	CA PCT	TI PCT	MN PPM	AG PPM	AS PPM	AU PPM	B PPM	BA PPM
101	10.0000	3.0000	3.0000	0.5000	1000.0000	3.0000	0.0 N	0.0 N	20.0000	1000.0000
102	10.0000	2.0000	2.0000	0.5000	1000.0000	0.0 N	0.0 N	0.0 N	70.0000	1500.0000
103	10.0000	1.5000	1.0000	0.7000	700.0000	0.0 N	0.0 N	0.0 N	70.0000	700.0000
104	5.0000	1.0000	2.0000	0.5000	1000.0000	0.0 N	0.0 N	0.0 N	50.0000	1000.0000
105	7.0000	2.0000	15.0000	1.0000	700.0000	0.0 N	0.0 N	0.0 N	70.0000	1000.0000
106	5.0000	1.5000	1.0000	0.7000	500.0000	0.0 N	0.0 N	0.0 N	100.0000	700.0000
107	15.0000	7.0000	3.0000	1.0000G	1000.0000	0.0 N	0.0 N	0.0 N	150.0000	700.0000
108	20.0000	7.0000	10.0000	1.0000G	3000.0000	0.0 N	0.0 N	0.0 N	50.0000	1500.0000
109	20.0000	7.0000	7.0000	1.0000G	2000.0000	0.0 N	0.0 N	0.0 N	50.0000	1000.0000
110	15.0000	7.0000	7.0000	1.0000G	1500.0000	0.0 N	0.0 N	0.0 N	30.0000	700.0000
111	15.0000	3.0000	3.0000	0.7000	1500.0000	0.0 N	0.0 N	0.0 N	30.0000	700.0000
112	10.0000	5.0000	1.5000	0.5000	1000.0000	0.0 N	0.0 N	0.0 N	30.0000	300.0000
113	10.0000	7.0000	3.0000	0.7000	2000.0000	0.0 N	0.0 N	0.0 N	30.0000	700.0000
114	15.0000	7.0000	7.0000	1.0000	1500.0000	0.0 N	0.0 N	0.0 N	150.0000	1000.0000
115	5.0000	1.5000	1.0000	0.5000	500.0000	0.0 N	0.0 N	0.0 N	30.0000	300.0000
116	15.0000	7.0000	7.0000	1.0000	1500.0000	0.5000	0.0 N	0.0 N	1500.0000	700.0000
117	20.0000	5.0000	3.0000	1.0000	1500.0000	0.0 N	0.0 N	0.0 N	50.0000	700.0000
118	15.0000	2.0000	2.0000	1.0000	3000.0000	0.0 N	0.0 N	0.0 N	100.0000	700.0000
119	15.0000	2.0000	1.0000	0.7000	3000.0000	0.0 N	0.0 N	0.0 N	70.0000	700.0000
120	10.0000	3.0000	2.0000	0.7000	1500.0000	0.0 N	0.0 N	0.0 N	70.0000	300.0000
121	20.0000	7.0000	7.0000	1.0000G	5000.0000G	0.0 N	0.0 N	0.0 N	300.0000	1500.0000
122	15.0000	5.0000	3.0000	1.0000	3000.0000	0.0 N	0.0 N	0.0 N	70.0000	300.0000
123	20.0000	7.0000	7.0000	1.0000G	2000.0000	0.0 N	0.0 N	0.0 N	500.0000	1000.0000
124	20.0000	5.0000	3.0000	1.0000G	700.0000	0.0 N	0.0 N	0.0 N	500.0000	300.0000
125	15.0000	5.0000	5.0000	1.0000G	2000.0000	0.0 N	0.0 N	0.0 N	300.0000	700.0000
126	15.0000	5.0000	5.0000	1.0000	2000.0000	0.0 N	0.0 N	0.0 N	300.0000	700.0000
127	10.0000	5.0000	2.0000	0.5000	1500.0000	0.0 N	0.0 N	0.0 N	150.0000	700.0000
128	20.0000	7.0000	7.0000	1.0000	1500.0000	0.0 N	0.0 N	0.0 N	2000.0000	700.0000
129	20.0000	10.0000	7.0000	1.0000G	3000.0000	0.0 N	0.0 N	0.0 N	2000.0000	1500.0000
130	15.0000	5.0000	5.0000	1.0000	1500.0000	0.0 N	0.0 N	0.0 N	300.0000	1000.0000
131	20.0000G	10.0000	5.0000	1.0000G	3000.0000	0.0 N	0.0 N	0.0 N	50.0000	1000.0000
132	15.0000	5.0000	2.0000	0.7000	1500.0000	0.0 N	0.0 N	0.0 N	500.0000	700.0000
133	15.0000	5.0000	7.0000	0.7000	1500.0000	0.0 N	0.0 N	0.0 N	20.0000	1500.0000
134	20.0000	7.0000	15.0000	1.0000G	3000.0000	0.0 N	0.0 N	0.0 N	50.0000	1500.0000
135	10.0000	3.0000	1.0000	0.7000	1500.0000	0.0 N	0.0 L	0.0 N	70.0000	700.0000
136	15.0000	5.0000	7.0000	1.0000	2000.0000	0.0 N	0.0 N	0.0 N	100.0000	1000.0000
137	20.0000	0.3000	0.7000	0.0300	300.0000	0.0 N	300.0000	0.0 N	50.0000	150.0000
138	15.0000	3.0000	0.1500	1.0000	700.0000	0.0 L	0.0 N	0.0 N	700.0000	700.0000
139	15.0000	7.0000	15.0000	0.7000	3000.0000	0.0 L	0.0 N	0.0 N	500.0000	1500.0000
140	10.0000	3.0000	1.5000	1.0000	3000.0000	0.0 N	0.0 N	0.0 N	70.0000	1500.0000
141	10.0000	1.5000	1.0000	0.2000	2000.0000	0.0 N	500.0000	0.0 N	500.0000	700.0000
142	7.0000	1.5000	1.5000	0.7000	1500.0000	0.0 L	1000.0000	0.0 N	300.0000	700.0000
143	10.0000	0.7000	0.7000	0.2000	2000.0000	0.7000	2000.0000	0.0 N	700.0000	700.0000
144	10.0000	1.5000	1.0000	0.7000	1500.0000	0.0 N	0.0 N	0.0 N	700.0000	700.0000
145	10.0000	2.0000	0.7000	0.3000	3000.0000	0.0 N	0.0 L	0.0 N	1000.0000	700.0000
146	15.0000	2.0000	1.5000	0.7000	3000.0000	0.5000	1000.0000	0.0 N	700.0000	700.0000
147	20.0000	0.3000	0.5000	0.0100	1000.0000	0.0 N	0.0 L	0.0 N	0.0 N	150.0000
148	5.0000	1.5000	0.7000	0.3000	500.0000	0.0 L	0.0 L	0.0 N	700.0000	700.0000
149	7.0000	1.5000	0.7000	0.5000	700.0000	0.0 L	0.0 L	0.0 N	500.0000	700.0000
150	10.0000	1.0000	0.5000	0.2000	1000.0000	0.0 N	0.0 L	0.0 N	150.0000	500.0000

SEDIMENT SAMPLES WEST ALASKA

SAMPLE	BE PPM	BI PPM	CO PPM	CR PPM	CU PPM	LA PPM	MO PPM	NB PPM	NI PPM	PB PPM
101	0.0 N	0.0 N	30.0000	300.0000	100.0000	20.0000	0.0 N	0.0 L	100.0000	70.0000
102	1.5000	0.0 N	15.0000	150.0000	20.0000	70.0000	0.0 N	0.0 L	50.0000	100.0000
103	0.0 L	0.0 N	15.0000	150.0000	50.0000	30.0000	0.0 N	0.0 L	100.0000	30.0000
104	5.0000	0.0 N	15.0000	70.0000	15.0000	70.0000	0.0 N	10.0000	30.0000	150.0000
105	0.0 L	0.0 N	15.0000	100.0000	15.0000	70.0000	0.0 N	0.0 L	70.0000	0.0 L
106	0.0 L	0.0 N	15.0000	100.0000	15.0000	50.0000	0.0 N	10.0000	50.0000	0.0 L
107	0.0 L	0.0 N	70.0000	300.0000	70.0000	20.0000	0.0 N	0.0 L	150.0000	15.0000
108	0.0 N	0.0 N	100.0000	3000.0000	150.0000	0.0 L	0.0 N	0.0 L	200.0000	15.0000
109	0.0 L	0.0 N	70.0000	300.0000	150.0000	0.0 L	0.0 N	0.0 L	70.0000	50.0000
110	0.0 N	0.0 N	100.0000	5000.0000	150.0000	20.0000	0.0 N	0.0 L	100.0000	50.0000
111	0.0 N	0.0 N	70.0000	150.0000	150.0000	0.0 L	0.0 N	10.0000	70.0000	20.0000
112	0.0 N	0.0 N	70.0000	150.0000	70.0000	0.0 L	0.0 N	0.0 L	70.0000	30.0000
113	0.0 N	0.0 N	70.0000	200.0000	150.0000	0.0 L	0.0 N	10.0000	100.0000	30.0000
114	0.0 L	0.0 N	70.0000	500.0000	150.0000	0.0 L	0.0 N	0.0 L	100.0000	10.0000
115	0.0 N	0.0 N	30.0000	300.0000	70.0000	0.0 L	0.0 N	0.0 L	50.0000	15.0000
116	0.0 L	0.0 N	70.0000	700.0000	70.0000	30.0000	0.0 N	0.0 L	150.0000	30.0000
117	0.0 N	0.0 N	70.0000	300.0000	100.0000	0.0 L	0.0 N	0.0 L	70.0000	15.0000
118	0.0 N	0.0 N	100.0000	150.0000	300.0000	0.0 L	0.0 N	0.0 L	70.0000	20.0000
119	0.0 L	0.0 N	30.0000	100.0000	100.0000	20.0000	0.0 N	0.0 L	70.0000	30.0000
120	0.0 N	0.0 N	30.0000	70.0000	100.0000	0.0 L	0.0 N	0.0 L	50.0000	15.0000
121	0.0 N	0.0 N	100.0000	700.0000	200.0000	0.0 L	0.0 N	0.0 L	150.0000	30.0000
122	0.0 N	0.0 N	50.0000	200.0000	100.0000	0.0 L	0.0 N	0.0 L	100.0000	15.0000
123	0.0 N	0.0 N	100.0000	700.0000	150.0000	0.0 L	0.0 N	0.0 L	150.0000	15.0000
124	0.0 L	0.0 N	70.0000	150.0000	15.0000	0.0 L	0.0 N	0.0 L	100.0000	0.0 L
125	0.0 N	0.0 N	70.0000	200.0000	150.0000	0.0 L	0.0 N	0.0 L	100.0000	20.0000
126	0.0 N	0.0 N	70.0000	300.0000	300.0000	0.0 L	0.0 N	10.0000	100.0000	20.0000
127	0.0 L	0.0 N	70.0000	150.0000	70.0000	20.0000	0.0 N	10.0000	70.0000	20.0000
128	0.0 N	0.0 N	70.0000	700.0000	70.0000	0.0 L	0.0 N	0.0 L	100.0000	10.0000
129	0.0 L	0.0 N	70.0000	700.0000	70.0000	20.0000	0.0 N	0.0 L	150.0000	15.0000
130	0.0 N	0.0 N	30.0000	500.0000	100.0000	0.0 L	0.0 N	0.0 L	150.0000	15.0000
131	0.0 L	0.0 N	100.0000	700.0000	150.0000	0.0 L	0.0 N	0.0 L	200.0000	15.0000
132	0.0 N	0.0 N	70.0000	200.0000	70.0000	0.0 L	0.0 N	15.0000	70.0000	30.0000
133	1.0000	0.0 N	70.0000	300.0000	70.0000	30.0000	0.0 N	0.0 L	70.0000	20.0000
134	1.0000	0.0 N	70.0000	300.0000	70.0000	30.0000	0.0 N	10.0000	70.0000	30.0000
135	0.0 L	0.0 N	30.0000	150.0000	70.0000	0.0 L	0.0 N	0.0 L	70.0000	15.0000
136	1.5000	0.0 N	70.0000	300.0000	150.0000	20.0000	0.0 N	10.0000	100.0000	50.0000
137	0.0 L	0.0 N	0.0 N	50.0000	50.0000	0.0 L	0.0 N	10.0000	0.0 L	15.0000
138	0.0 L	0.0 N	50.0000	200.0000	70.0000	0.0 L	0.0 N	10.0000	70.0000	20.0000
139	0.0 L	0.0 N	70.0000	3000.0000	100.0000	20.0000	0.0 N	0.0 L	100.0000	50.0000
140	0.0 N	0.0 N	30.0000	150.0000	70.0000	0.0 L	0.0 N	0.0 L	70.0000	20.0000
141	1.0000	0.0 N	20.0000	200.0000	100.0000	0.0 N	0.0 N	0.0 L	50.0000	150.0000
142	1.0000	0.0 N	70.0000	1000.0000	100.0000	20.0000	0.0 N	0.0 L	70.0000	200.0000
143	1.5000	10.0000	15.0000	70.0000	150.0000	0.0 N	0.0 L	10.0000	30.0000	500.0000
144	0.0 N	0.0 N	15.0000	700.0000	70.0000	0.0 L	0.0 N	0.0 L	70.0000	100.0000
145	1.0000	0.0 N	15.0000	70.0000	20.0000	70.0000	0.0 N	0.0 L	70.0000	500.0000
146	1.0000	0.0 N	30.0000	150.0000	70.0000	20.0000	0.0 N	0.0 L	70.0000	700.0000
147	0.0 N	0.0 N	0.0 L	7.0000	0.0 L	30.0000	0.0 N	0.0 L	0.0 L	10.0000
148	1.5000	0.0 L	15.0000	70.0000	70.0000	30.0000	10.0000	0.0 L	30.0000	300.0000
149	1.0000	0.0 N	15.0000	70.0000	20.0000	70.0000	0.0 N	0.0 L	50.0000	300.0000
150	1.0000	0.0 L	15.0000	50.0000	15.0000	20.0000	0.0 L	0.0 L	30.0000	150.0000

SEDIMENT SAMPLES WEST ALASKA

SAMPLE	SB PPM	SC PPM	SN PPM	SR PPM	V PPM	W PPM	Y PPM	ZN PPM	ZR PPM
101	0.0 N	30.0000	0.0 N	500.0000	200.0000	0.0 N	30.0000	0.0 L	100.0000
102	0.0 N	15.0000	0.0 N	1000.0000	150.0000	0.0 N	20.0000	0.0 N	50.0000
103	0.0 N	15.0000	0.0 N	0.0 L	300.0000	0.0 N	15.0000	0.0 N	300.0000
104	0.0 N	7.0000	0.0 N	500.0000	150.0000	0.0 N	30.0000	0.0 N	300.0000
105	0.0 N	20.0000	0.0 N	500.0000	200.0000	0.0 N	10.0000	0.0 N	300.0000
106	0.0 N	15.0000	0.0 N	150.0000	150.0000	0.0 N	30.0000	0.0 N	500.0000
107	0.0 N	70.0000	0.0 N	100.0000	500.0000	0.0 N	30.0000	0.0 N	300.0000
108	0.0 N	100.0000	0.0 N	300.0000	700.0000	0.0 N	50.0000	0.0 L	200.0000
109	0.0 N	70.0000	0.0 N	200.0000	700.0000	0.0 N	30.0000	0.0 N	100.0000
110	0.0 N	100.0000	0.0 N	300.0000	700.0000	0.0 N	50.0000	0.0 L	50.0000
111	0.0 N	50.0000	0.0 N	200.0000	300.0000	0.0 N	15.0000	0.0 L	70.0000
112	0.0 N	30.0000	0.0 N	150.0000	300.0000	0.0 N	15.0000	0.0 N	70.0000
113	0.0 N	50.0000	0.0 N	200.0000	300.0000	0.0 N	20.0000	0.0 L	70.0000
114	0.0 N	70.0000	0.0 N	300.0000	500.0000	0.0 N	30.0000	0.0 N	70.0000
115	0.0 N	30.0000	0.0 N	100.0000	300.0000	0.0 N	20.0000	0.0 N	70.0000
116	0.0 N	70.0000	0.0 N	300.0000	300.0000	0.0 N	30.0000	0.0 L	200.0000
117	0.0 N	70.0000	0.0 N	100.0000	700.0000	0.0 N	20.0000	0.0 N	70.0000
118	0.0 N	70.0000	0.0 N	100.0000	500.0000	0.0 N	20.0000	0.0 L	70.0000
119	0.0 N	30.0000	0.0 N	0.0 L	300.0000	0.0 N	30.0000	0.0 L	150.0000
120	0.0 N	30.0000	0.0 N	0.0 L	300.0000	0.0 N	15.0000	0.0 N	70.0000
121	0.0 N	70.0000	0.0 N	300.0000	300.0000	0.0 N	30.0000	0.0 L	100.0000
122	0.0 N	50.0000	0.0 N	0.0 L	700.0000	0.0 N	15.0000	0.0 N	50.0000
123	0.0 N	100.00006	0.0 N	100.0000	1000.0000	0.0 N	30.0000	0.0 N	200.0000
124	0.0 N	70.0000	0.0 N	150.0000	500.0000	0.0 N	30.0000	0.0 N	150.0000
125	0.0 N	100.0000	0.0 N	100.0000	1000.0000	0.0 N	20.0000	0.0 N	200.0000
126	0.0 N	70.0000	0.0 N	150.0000	700.0000	0.0 N	15.0000	0.0 N	200.0000
127	0.0 N	50.0000	0.0 N	300.0000	300.0000	0.0 N	30.0000	0.0 L	70.0000
128	0.0 N	70.0000	0.0 N	150.0000	700.0000	0.0 N	50.0000	0.0 N	150.0000
129	0.0 N	100.0000	0.0 N	300.0000	700.0000	0.0 N	30.0000	0.0 N	500.0000
130	0.0 N	30.0000	0.0 N	150.0000	300.0000	0.0 N	15.0000	0.0 N	150.0000
131	0.0 N	100.0000	0.0 N	100.0000	100.0000	0.0 N	30.0000	0.0 N	300.0000
132	0.0 N	50.0000	0.0 N	200.0000	300.0000	0.0 N	30.0000	0.0 L	70.0000
133	0.0 N	50.0000	0.0 N	700.0000	300.0000	0.0 N	70.0000	0.0 N	1000.0000
134	0.0 N	50.0000	0.0 N	1000.0000	700.0000	0.0 N	150.0000	0.0 N	1000.0000
135	0.0 N	30.0000	0.0 N	0.0 L	300.0000	0.0 N	30.0000	0.0 N	100.0000
136	0.0 N	50.0000	0.0 N	300.0000	300.0000	0.0 N	50.0000	0.0 N	200.0000
137	0.0 N	7.0000	0.0 N	0.0 L	50.0000	0.0 L	0.0 L	0.0 N	15.0000
138	0.0 N	30.0000	0.0 N	150.0000	300.0000	0.0 L	15.0000	0.0 L	150.0000
139	0.0 N	50.0000	0.0 N	300.0000	500.0000	0.0 N	70.0000	0.0 L	700.0000
140	0.0 N	30.0000	0.0 N	0.0 L	300.0000	0.0 N	15.0000	0.0 L	150.0000
141	0.0 N	50.0000	0.0 L	0.0 L	200.0000	0.0 N	30.0000	0.0 N	100.0000
142	0.0 N	30.0000	0.0 N	100.0000	300.0000	0.0 N	20.0000	200.0000	70.0000
143	0.0 L	20.0000	15.0000	100.0000	150.0000	0.0 N	20.0000	700.0000	70.0000
144	0.0 N	30.0000	0.0 N	0.0 L	500.0000	0.0 N	10.0000	500.0000	150.0000
145	0.0 N	30.0000	0.0 N	100.0000	200.0000	0.0 N	15.0000	1000.0000	200.0000
146	0.0 N	20.0000	0.0 N	100.0000	300.0000	0.0 N	20.0000	1500.0000	200.0000
147	0.0 N	0.0 N	0.0 N	0.0 N	10.0000	0.0 N	0.0 L	0.0 L	10.0000
148	0.0 N	15.0000	0.0 N	150.0000	150.0000	0.0 N	15.0000	700.0000	150.0000
149	0.0 N	10.0000	0.0 N	0.0 L	150.0000	0.0 N	20.0000	500.0000	300.0000
150	0.0 N	10.0000	0.0 N	150.0000	150.0000	0.0 N	20.0000	300.0000	100.0000

SEDIMENT SAMPLES WEST ALASKA

SAMPLE	FE PCT	MG PCT	CA PCT	TI PCT	MN PPM	AG PPM	AS PPM	AU PPM	B PPM	BA PPM
151	7.0000	2.0000	1.5000	0.3000	2000.0000	0.5000	0.0 N	0.0 N	300.0000	700.0000
152	20.0000	7.0000	3.0000	1.0000G	3000.0000	0.0 N	0.0 N	0.0 N	1500.0000	1500.0000
153	15.0000	2.0000	1.5000	0.3000	700.0000	0.5000	1500.0000	0.0 N	1500.0000	700.0000
154	15.0000	3.0000	1.5000	0.7000	700.0000	0.0 L	0.0 N	0.0 N	1000.0000	1000.0000
155	15.0000	5.0000	1.5000	0.7000	3000.0000	0.0 L	0.0 N	0.0 N	700.0000	700.0000
156	15.0000	3.0000	3.0000	0.5000	3000.0000	0.0 L	0.0 N	0.0 N	1500.0000	700.0000
157	3.0000	1.5000	1.0000	0.1500	700.0000	0.0 N	0.0 L	0.0 N	150.0000	500.0000
158	7.0000	2.0000	1.5000	0.7000	1500.0000	0.0 L	0.0 N	0.0 N	700.0000	700.0000
159	5.0000	3.0000	2.0000	0.5000	700.0000	0.0 L	0.0 N	0.0 N	700.0000	700.0000
160	7.0000	3.0000	15.0000	0.7000	1500.0000	0.0 L	0.0 L	0.0 N	700.0000	700.0000
161	7.0000	5.0000	3.0000	0.5000	2000.0000	0.0 N	0.0 N	0.0 N	700.0000	700.0000
162	15.0000	7.0000	3.0000	1.0000	3000.0000	0.0 L	0.0 N	0.0 N	1500.0000	1000.0000
163	15.0000	7.0000	3.0000	1.0000	3000.0000	0.0 L	0.0 N	0.0 N	700.0000	700.0000
164	20.0000	7.0000	3.0000	1.0000G	3000.0000	0.0 L	0.0 N	0.0 N	1000.0000	1500.0000
165	15.0000	5.0000	2.0000	1.0000	3000.0000	0.5000	0.0 N	0.0 N	1500.0000	1000.0000
166	15.0000	7.0000	3.0000	1.0000	2000.0000	0.0 L	0.0 N	0.0 N	700.0000	700.0000
167	20.0000	7.0000	3.0000	1.0000	3000.0000	0.0 L	0.0 N	0.0 N	700.0000	1500.0000
168	15.0000	3.0000	1.0000	1.0000G	700.0000	0.5000	0.0 N	0.0 N	1000.0000	700.0000
169	7.0000	3.0000	2.0000	0.7000	1000.0000	0.0 L	0.0 L	0.0 N	300.0000	700.0000
170	10.0000	2.0000	2.0000	0.3000	1000.0000	0.0 N	0.0 N	0.0 N	1000.0000	1000.0000
171	5.0000	1.5000	1.5000	0.5000	1500.0000	0.5000	0.0 L	0.0 N	300.0000	700.0000
172	15.0000	5.0000	3.0000	1.0000	2000.0000	0.0 L	0.0 N	0.0 N	300.0000	1000.0000
173	15.0000	5.0000	3.0000	0.7000	1500.0000	0.0 L	0.0 N	0.0 N	500.0000	700.0000
174	7.0000	1.5000	1.0000	0.2000	700.0000	0.0 N	0.0 N	0.0200	500.0000	700.0000
175	7.0000	2.0000	2.0000	0.5000	1000.0000	0.0 N	0.0 N	0.0 N	500.0000	500.0000
176	15.0000	2.0000	1.5000	0.7000	1500.0000	0.0 N	0.0 N	0.0 N	1500.0000	500.0000
177	10.0000	2.0000	1.5000	0.7000	2000.0000	0.0 N	0.0 N	0.0 N	200.0000	700.0000
178	10.0000	5.0000	2.0000	0.7000	2000.0000	0.0 L	0.0 L	0.0 N	1000.0000	700.0000
179	20.0000	7.0000	5.0000	1.0000G	3000.0000	0.0 N	0.0 N	0.0 N	2000.0000	1000.0000
180	20.0000	7.0000	7.0000	1.0000G	5000.0000G	0.0 N	0.0 N	0.0 N	1000.0000	1000.0000
181	15.0000	2.0000	3.0000	0.7000	2000.0000	0.0 N	0.0 N	0.0 N	500.0000	700.0000
182	15.0000	7.0000	5.0000	1.0000G	2000.0000	0.0 N	0.0 N	0.0 N	70.0000	700.0000
183	15.0000	7.0000	7.0000	1.0000	2000.0000	0.0 N	0.0 N	0.0 N	1000.0000	1000.0000
184	20.0000G	10.0000	7.0000	1.0000G	5000.0000G	0.0 N	0.0 N	0.0 N	200.0000	1500.0000
185	15.0000	7.0000	5.0000	1.0000G	3000.0000	0.0 N	0.0 N	0.0 N	50.0000	300.0000
186	20.0000	7.0000	15.0000	1.0000G	3000.0000	0.0 N	0.0 N	0.0 N	700.0000	1000.0000
187	20.0000	5.0000	5.0000	1.0000G	5000.0000G	0.0 N	0.0 N	0.0 N	300.0000	1000.0000
188	20.0000	7.0000	10.0000	1.0000G	3000.0000	0.0 N	0.0 N	0.0 N	300.0000	1000.0000
189	15.0000	3.0000	2.0000	1.0000	700.0000	0.0 N	0.0 N	0.0 N	50.0000	150.0000
190	20.0000	7.0000	5.0000	1.0000G	2000.0000	0.0 N	0.0 N	0.0 N	300.0000	700.0000
191	15.0000	7.0000	5.0000	1.0000	2000.0000	0.0 N	0.0 N	0.0 N	70.0000	700.0000
192	20.0000	7.0000	5.0000	1.0000	2000.0000	0.0 N	0.0 N	0.0 N	700.0000	1000.0000
193	15.0000	5.0000	3.0000	1.0000	1500.0000	0.0 N	0.0 N	0.0 N	700.0000	1000.0000
194	10.0000	3.0000	3.0000	0.7000	1500.0000	0.0 N	0.0 N	0.0 N	500.0000	1000.0000
195	15.0000	5.0000	5.0000	1.0000	3000.0000	0.0 N	0.0 N	0.0 N	700.0000	1500.0000
196	20.0000	7.0000	5.0000	1.0000	2000.0000	0.0 N	0.0 N	0.0 N	500.0000	1000.0000
197	20.0000	7.0000	5.0000	1.0000G	2000.0000	0.0 N	0.0 N	0.0 N	1000.0000	1500.0000
198	15.0000	7.0000	5.0000	1.0000	2000.0000	0.0 N	0.0 N	0.0 N	700.0000	1000.0000
199	10.0000	3.0000	3.0000	1.0000	2000.0000	0.0 N	0.0 N	0.0 N	15.0000	1000.0000
200	7.0000	1.5000	2.0000	0.5000	1000.0000	0.0 N	0.0 N	0.0 N	300.0000	1500.0000

SEDIMENT SAMPLES WEST ALASKA

SAMPLE	BE PPM	BI PPM	CO PPM	CR PPM	CU PPM	LA PPM	MO PPM	NB PPM	NI PPM	PB PPM
151	1.0000	0.0 L	70.0000	100.0000	70.0000	0.0 L	0.0 N	10.0000	70.0000	700.0000
152	1.5000	0.0 N	70.0000	300.0000	100.0000	20.0000	0.0 N	10.0000	100.0000	1000.0000
153	1.5000	0.0 N	15.0000	150.0000	70.0000	20.0000	0.0 N	10.0000	70.0000	200.0000
154	0.0 L	0.0 N	30.0000	300.0000	70.0000	20.0000	0.0 N	0.0 L	70.0000	200.0000
155	1.0000	0.0 N	30.0000	200.0000	70.0000	0.0 L	0.0 N	0.0 L	70.0000	150.0000
156	1.0000	0.0 N	50.0000	150.0000	50.0000	0.0 L	0.0 N	10.0000	70.0000	300.0000
157	1.5000	0.0 L	15.0000	150.0000	50.0000	20.0000	0.0 N	10.0000	30.0000	100.0000
158	1.5000	0.0 N	30.0000	150.0000	70.0000	0.0 L	0.0 N	0.0 L	70.0000	700.0000
159	1.0000	0.0 N	30.0000	200.0000	50.0000	0.0 L	0.0 N	10.0000	70.0000	300.0000
160	1.0000	0.0 N	50.0000	300.0000	70.0000	0.0 L	0.0 N	10.0000	70.0000	300.0000
161	1.0000	0.0 N	50.0000	300.0000	70.0000	20.0000	0.0 N	10.0000	70.0000	100.0000
162	0.0 L	0.0 N	50.0000	500.0000	100.0000	20.0000	0.0 N	0.0 L	100.0000	500.0000
163	0.0 L	0.0 N	50.0000	300.0000	100.0000	20.0000	0.0 N	0.0 L	100.0000	500.0000
164	0.0 L	0.0 N	70.0000	700.0000	100.0000	0.0 L	0.0 N	0.0 L	150.0000	300.0000
165	1.0000	0.0 N	50.0000	300.0000	70.0000	20.0000	0.0 N	0.0 L	100.0000	700.0000
166	0.0 L	0.0 N	50.0000	500.0000	100.0000	0.0 L	0.0 N	0.0 L	70.0000	500.0000
167	0.0 L	0.0 N	70.0000	700.0000	150.0000	0.0 L	0.0 N	0.0 L	100.0000	300.0000
168	1.0000	0.0 N	15.0000	70.0000	70.0000	20.0000	0.0 N	10.0000	50.0000	1000.0000
169	1.0000	0.0 N	50.0000	300.0000	70.0000	20.0000	0.0 N	0.0 L	70.0000	150.0000
170	1.0000	0.0 L	20.0000	150.0000	50.0000	0.0 N	0.0 N	0.0 L	50.0000	100.0000
171	1.0000	0.0 N	10.0000	70.0000	70.0000	20.0000	0.0 N	0.0 L	30.0000	300.0000
172	0.0 L	0.0 N	70.0000	300.0000	70.0000	20.0000	0.0 N	0.0 L	70.0000	200.0000
173	0.0 L	0.0 N	70.0000	300.0000	70.0000	0.0 L	0.0 N	10.0000	70.0000	150.0000
174	1.0000	0.0 N	15.0000	150.0000	20.0000	20.0000	0.0 L	10.0000	50.0000	100.0000
175	1.0000	0.0 N	15.0000	150.0000	50.0000	20.0000	0.0 N	0.0 L	70.0000	100.0000
176	0.0 L	0.0 N	70.0000	150.0000	70.0000	20.0000	0.0 N	0.0 L	70.0000	20.0000
177	0.0 L	0.0 N	50.0000	150.0000	100.0000	20.0000	0.0 N	10.0000	70.0000	300.0000
178	1.0000	0.0 N	70.0000	500.0000	100.0000	20.0000	0.0 N	0.0 L	70.0000	300.0000
179	0.0 N	0.0 N	70.0000	700.0000	100.0000	0.0 L	0.0 N	0.0 L	200.0000	50.0000
180	0.0 N	0.0 N	70.0000	700.0000	100.0000	0.0 L	0.0 N	0.0 L	200.0000	100.0000
181	0.0 N	0.0 N	20.0000	700.0000	70.0000	20.0000	0.0 N	0.0 L	150.0000	15.0000
182	0.0 L	0.0 N	70.0000	500.0000	100.0000	20.0000	0.0 N	0.0 L	150.0000	30.0000
183	0.0 L	0.0 N	70.0000	500.0000	300.0000	20.0000	0.0 N	10.0000	100.0000	100.0000
184	0.0 L	0.0 N	150.0000	70.0000	300.0000	20.0000	0.0 N	10.0000	300.0000	30.0000
185	0.0 L	0.0 N	20.0000	200.0000	70.0000	20.0000	0.0 N	0.0 L	70.0000	30.0000
186	0.0 N	0.0 N	100.0000	700.0000	100.0000	0.0 L	0.0 N	0.0 L	200.0000	70.0000
187	0.0 L	0.0 N	100.0000	150.0000	70.0000	20.0000	0.0 N	0.0 L	150.0000	15.0000
188	0.0 N	0.0 N	100.0000	700.0000	70.0000	0.0 L	0.0 N	0.0 L	150.0000	30.0000
189	0.0 L	0.0 N	20.0000	70.0000	10.0000	20.0000	0.0 N	0.0 L	70.0000	0.0 N
190	0.0 L	0.0 N	70.0000	300.0000	70.0000	20.0000	0.0 N	0.0 L	100.0000	20.0000
191	0.0 L	0.0 N	70.0000	300.0000	300.0000	0.0 L	0.0 N	10.0000	150.0000	70.0000
192	0.0 L	0.0 N	70.0000	500.0000	300.0000	0.0 L	0.0 N	10.0000	70.0000	100.0000
193	0.0 L	0.0 N	70.0000	200.0000	100.0000	20.0000	0.0 N	0.0 L	100.0000	100.0000
194	1.5000	0.0 N	50.0000	150.0000	70.0000	20.0000	0.0 N	10.0000	70.0000	70.0000
195	1.0000	0.0 N	70.0000	300.0000	100.0000	0.0 L	0.0 N	10.0000	100.0000	150.0000
196	0.0 L	0.0 N	70.0000	500.0000	100.0000	20.0000	0.0 N	10.0000	70.0000	70.0000
197	0.0 L	0.0 N	70.0000	300.0000	150.0000	0.0 L	0.0 N	10.0000	100.0000	70.0000
198	0.0 L	0.0 N	70.0000	300.0000	100.0000	20.0000	0.0 N	0.0 L	70.0000	100.0000
199	0.0 N	0.0 N	15.0000	200.0000	30.0000	70.0000	0.0 N	0.0 L	150.0000	70.0000
200	1.5000	0.0 N	15.0000	70.0000	20.0000	200.0000	0.0 N	10.0000	50.0000	150.0000

SEDIMENT SAMPLES WEST ALASKA

SAMPLE	SB PPM	SC PPM	SN PPM	SR PPM	V PPM	W PPM	Y PPM	ZN PPM	ZR PPM
151	0.0 N	20.0000	0.0 N	0.0 L	150.0000	0.0 N	20.0000	700.0000	150.0000
152	0.0 N	50.0000	0.0 N	100.0000	500.0000	0.0 N	50.0000	1500.0000	300.0000
153	0.0 N	20.0000	0.0 L	200.0000	150.0000	0.0 N	30.0000	300.0000	300.0000
154	0.0 N	30.0000	0.0 L	200.0000	300.0000	0.0 N	20.0000	700.0000	150.0000
155	0.0 N	30.0000	0.0 N	200.0000	300.0000	0.0 N	20.0000	500.0000	150.0000
156	0.0 N	30.0000	0.0 N	300.0000	300.0000	0.0 N	15.0000	1000.0000	100.0000
157	0.0 N	20.0000	0.0 L	100.0000	100.0000	0.0 N	30.0000	0.0 N	100.0000
158	0.0 N	20.0000	0.0 L	100.0000	300.0000	0.0 L	20.0000	300.0000	200.0000
159	0.0 N	30.0000	0.0 L	300.0000	150.0000	0.0 N	15.0000	300.0000	100.0000
160	0.0 N	30.0000	0.0 L	150.0000	200.0000	0.0 N	20.0000	700.0000	100.0000
161	0.0 N	30.0000	0.0 L	300.0000	200.0000	0.0 N	15.0000	0.0 L	100.0000
162	0.0 N	30.0000	0.0 L	150.0000	500.0000	0.0 N	20.0000	300.0000	300.0000
163	0.0 N	30.0000	0.0 N	100.0000	500.0000	0.0 N	30.0000	300.0000	200.0000
164	0.0 N	50.0000	0.0 N	150.0000	700.0000	0.0 N	30.0000	200.0000	300.0000
165	0.0 N	30.0000	0.0 L	100.0000	300.0000	0.0 N	30.0000	1500.0000	300.0000
166	0.0 N	50.0000	0.0 N	200.0000	500.0000	0.0 N	20.0000	0.0 L	150.0000
167	0.0 N	50.0000	0.0 N	300.0000	700.0000	0.0 N	30.0000	0.0 L	200.0000
168	0.0 N	15.0000	0.0 N	100.0000	300.0000	0.0 N	30.0000	200.0000	700.0000
169	0.0 N	30.0000	0.0 N	200.0000	300.0000	0.0 N	30.0000	0.0 N	100.0000
170	0.0 N	30.0000	0.0 N	200.0000	150.0000	0.0 N	30.0000	0.0 N	100.0000
171	0.0 N	15.0000	0.0 N	0.0 L	200.0000	0.0 N	20.0000	1500.0000	150.0000
172	0.0 N	50.0000	0.0 N	300.0000	500.0000	0.0 N	30.0000	0.0 L	150.0000
173	0.0 N	30.0000	0.0 N	300.0000	300.0000	0.0 N	30.0000	0.0 L	150.0000
174	0.0 N	30.0000	0.0 N	0.0 L	150.0000	0.0 N	30.0000	0.0 N	100.0000
175	0.0 N	30.0000	0.0 N	100.0000	200.0000	0.0 N	20.0000	0.0 L	150.0000
176	0.0 N	50.0000	0.0 N	100.0000	300.0000	0.0 N	30.0000	0.0 N	100.0000
177	0.0 N	30.0000	0.0 N	150.0000	300.0000	0.0 N	30.0000	200.0000	100.0000
178	0.0 N	50.0000	0.0 N	300.0000	300.0000	0.0 N	30.0000	0.0 L	150.0000
179	0.0 N	50.0000	0.0 N	100.0000	500.0000	0.0 N	20.0000	0.0 N	150.0000
180	0.0 N	100.0000	0.0 N	100.0000	700.0000	0.0 N	30.0000	0.0 N	300.0000
181	0.0 N	50.0000	0.0 N	0.0 L	500.0000	0.0 N	20.0000	0.0 L	500.0000
182	0.0 N	70.0000	0.0 N	150.0000	500.0000	0.0 N	30.0000	0.0 L	150.0000
183	0.0 N	50.0000	0.0 N	300.0000	300.0000	0.0 N	20.0000	0.0 L	150.0000
184	0.0 N	300.0000G	0.0 N	3000.0000	100.0000	0.0 N	100.0000	0.0 N	700.0000
185	0.0 N	30.0000	0.0 N	150.0000	300.0000	0.0 N	30.0000	0.0 L	150.0000
186	0.0 N	100.0000G	0.0 N	200.0000	700.0000	0.0 N	50.0000	0.0 N	200.0000
187	0.0 N	30.0000	0.0 N	100.0000	500.0000	0.0 N	50.0000	0.0 N	500.0000
188	0.0 N	100.0000G	0.0 N	100.0000	700.0000	0.0 N	50.0000	0.0 N	200.0000
189	0.0 N	30.0000	0.0 N	0.0 L	300.0000	0.0 N	50.0000	0.0 N	300.0000
190	0.0 N	50.0000	0.0 N	100.0000	500.0000	0.0 N	30.0000	0.0 N	300.0000
191	0.0 N	50.0000	0.0 N	150.0000	500.0000	0.0 N	20.0000	0.0 N	150.0000
192	0.0 N	50.0000	0.0 N	300.0000	300.0000	0.0 N	30.0000	0.0 L	150.0000
193	0.0 N	30.0000	0.0 N	300.0000	500.0000	0.0 N	30.0000	0.0 L	200.0000
194	0.0 N	30.0000	0.0 N	300.0000	200.0000	0.0 N	20.0000	0.0 L	200.0000
195	0.0 N	70.0000	0.0 N	300.0000	500.0000	0.0 N	30.0000	0.0 L	300.0000
196	0.0 N	50.0000	0.0 N	150.0000	700.0000	0.0 N	30.0000	0.0 L	150.0000
197	0.0 N	70.0000	0.0 N	300.0000	500.0000	0.0 N	30.0000	0.0 L	150.0000
198	0.0 N	70.0000	0.0 N	300.0000	700.0000	0.0 N	20.0000	0.0 L	200.0000
199	0.0 N	15.0000	0.0 N	300.0000	200.0000	0.0 N	15.0000	0.0 N	150.0000
200	0.0 N	15.0000	0.0 N	500.0000	150.0000	0.0 N	20.0000	0.0 N	150.0000

SEDIMENT SAMPLES WEST ALASKA

SAMPLE	FE PCT	MG PCT	CA PCT	TI PCT	MN PPM	AG PPM	AS PPM	AU PPM	B PPM	BA PPM
201	15.0000	3.0000	3.0000	1.0000	2000.0000	0.0 N	0.0 N	0.0 N	300.0000	1500.0000
202	15.0000	7.0000	5.0000	1.0000	1500.0000	0.0 N	0.0 N	0.0 N	1000.0000	1500.0000
203	7.0000	2.0000	5.0000	0.7000	1000.0000	0.0 N	0.0 N	0.0 N	70.0000	70.0000
204	15.0000	5.0000	3.0000	1.0000G	2000.0000	0.0 N	0.0 N	0.0 N	30.0000	1500.0000
205	5.0000	2.0000	2.0000	0.2000	700.0000	0.0 L	0.0 N	0.0 N	30.0000	1000.0000
206	7.0000	3.0000	5.0000	0.5000	1500.0000	0.5000	0.0 L	0.0 N	500.0000	700.0000
207	15.0000	5.0000	5.0000	1.0000	2000.0000	0.0 L	0.0 N	0.0 N	30.0000	1500.0000
208	5.0000	2.0000	2.0000	0.2000	1000.0000	0.0 N	0.0 L	0.0 N	500.0000	700.0000
209	10.0000	5.0000	5.0000	0.7000	2000.0000	0.0 N	0.0 N	0.0 N	100.0000	700.0000
210	7.0000	3.0000	3.0000	0.2000	3000.0000	0.0 N	0.0 N	0.0 N	30.0000	700.0000
211	10.0000	5.0000	5.0000	0.7000	1500.0000	0.5000	0.0 L	0.0 N	200.0000	1000.0000
212	20.0000	7.0000	7.0000	1.0000G	1500.0000	0.0 N	0.0 N	0.0 N	15.0000	1500.0000
213	15.0000	5.0000	7.0000	1.0000	1500.0000	0.0 L	0.0 N	0.0 N	70.0000	700.0000
214	15.0000	7.0000	7.0000	1.0000	2000.0000	0.0 N	0.0 N	0.0 N	30.0000	1500.0000
215	15.0000	7.0000	7.0000	1.0000	2000.0000	0.0 L	0.0 N	0.0 N	20.0000	700.0000
216	20.0000	7.0000	7.0000	1.0000	1500.0000	0.0 N	0.0 N	0.0 N	300.0000	1500.0000
217	15.0000	7.0000	7.0000	1.0000	1500.0000	0.0 N	0.0 N	0.0 N	700.0000	1000.0000
218	10.0000	3.0000	5.0000	1.0000	2000.0000	0.0 N	0.0 N	0.0 N	200.0000	1500.0000
219	10.0000	2.0000	3.0000	0.7000	1000.0000	0.0 N	0.0 L	0.0 N	200.0000	700.0000
220	15.0000	2.0000	3.0000	1.0000	1500.0000	0.0 N	0.0 N	0.0 N	70.0000	700.0000
221	15.0000	3.0000	5.0000	1.0000	5000.0000	0.0 N	0.0 N	0.0 N	30.0000	1500.0000
222	15.0000	7.0000	7.0000	1.0000	2000.0000	0.0 N	0.0 N	0.0 N	1000.0000	1500.0000
223	10.0000	5.0000	3.0000	1.0000	2000.0000	0.0 N	0.0 N	0.0 N	300.0000	1000.0000
224	15.0000	7.0000	7.0000	1.0000	2000.0000	0.0 N	0.0 N	0.0 N	500.0000	700.0000
225	10.0000	3.0000	5.0000	0.7000	700.0000	0.0 N	0.0 N	0.0 N	70.0000	500.0000
226	15.0000	3.0000	3.0000	0.7000	1500.0000	0.0 N	0.0 N	0.0 N	50.0000	1000.0000
227	15.0000	2.0000	3.0000	0.7000	700.0000	0.0 N	0.0 N	0.0 N	30.0000	1000.0000
228	7.0000	2.0000	1.0000	0.7000	700.0000	0.0 N	0.0 N	0.0 N	70.0000	700.0000
229	10.0000	5.0000	7.0000	1.0000G	2000.0000	0.0 N	0.0 N	0.0 N	20.0000	3000.0000
230	20.0000	7.0000	10.0000	1.0000G	3000.0000	0.0 N	0.0 N	0.0 N	70.0000	2000.0000
231	15.0000	5.0000	7.0000	1.0000G	2000.0000	0.0 L	0.0 N	0.0 N	50.0000	2000.0000
232	20.0000	7.0000	10.0000	1.0000G	2000.0000	0.0 N	0.0 N	0.0 N	30.0000	1500.0000
233	15.0000	5.0000	5.0000	1.0000	1500.0000	0.0 N	0.0 N	0.0 N	70.0000	1500.0000
234	7.0000	5.0000	5.0000	0.7000	1500.0000	0.0 N	0.0 N	0.0 N	30.0000	2000.0000
235	5.0000	0.7000	1.5000	0.5000	3000.0000	0.0 N	0.0 N	0.0 N	50.0000	700.0000
236	5.0000	1.0000	1.5000	0.7000	700.0000	0.0 N	0.0 N	0.0 N	30.0000	500.0000
237	5.0000	0.5000	1.0000	1.0000	2000.0000	0.0 N	0.0 N	0.0 N	30.0000	300.0000
238	15.0000	3.0000	3.0000	1.0000	5000.0000G	0.0 N	0.0 N	0.0 N	30.0000	700.0000
239	15.0000	3.0000	2.0000	1.0000	5000.0000	0.0 N	0.0 N	0.0 N	70.0000	700.0000
240	20.0000	3.0000	3.0000	0.7000	5000.0000	0.0 N	0.0 N	0.0 N	30.0000	1000.0000
241	7.0000	1.5000	3.0000	0.3000	3000.0000	0.0 N	0.0 N	0.0 N	30.0000	700.0000
242	15.0000	3.0000	3.0000	1.0000	2000.0000	0.0 N	0.0 N	0.0 N	20.0000	700.0000
243	15.0000	5.0000	5.0000	1.0000	5000.0000	0.0 N	0.0 N	0.0 N	100.0000	700.0000
244	20.0000	7.0000	7.0000	1.0000	3000.0000	0.0 N	0.0 N	0.0 N	50.0000	1500.0000
245	15.0000	5.0000	7.0000	1.0000G	1500.0000	0.0 N	0.0 N	0.0 N	30.0000	700.0000
246	5.0000	1.0000	1.5000	0.3000	700.0000	0.0 N	0.0 N	0.0 N	30.0000	1000.0000
247	7.0000	1.5000	3.0000	0.5000	700.0000	0.0 N	0.0 N	0.0 N	10.0000	2000.0000
248	5.0000	2.0000	3.0000	0.5000	1000.0000	0.0 N	0.0 N	0.0 N	20.0000	1500.0000
249	7.0000	3.0000	3.0000	0.7000	1500.0000	0.0 N	0.0 N	0.0 N	30.0000	1500.0000
250	3.0000	0.7000	0.2000	0.2000	300.0000	0.0 N	0.0 N	0.0 N	30.0000	500.0000

SEDIMENT SAMPLES WEST ALASKA

SAMPLE	BE PPM	BI PPM	CO PPM	CR PPM	CU PPM	LA PPM	MO PPM	NB PPM	NI PPM	PB PPM
201	1.5000	0.0 N	70.0000	200.0000	70.0000	30.0000	0.0 N	20.0000	70.0000	70.0000
202	0.0 L	0.0 N	70.0000	1500.0000	100.0000	20.0000	0.0 N	0.0 L	70.0000	70.0000
203	3.0000	0.0 N	50.0000	100.0000	70.0000	30.0000	0.0 N	10.0000	70.0000	100.0000
204	1.5000	0.0 N	70.0000	200.0000	70.0000	30.0000	0.0 N	0.0 L	70.0000	100.0000
205	15.0000	0.0 L	15.0000	500.0000	30.0000	70.0000	0.0 N	10.0000	50.0000	70.0000
206	1.5000	0.0 N	30.0000	200.0000	70.0000	20.0000	0.0 N	0.0 L	70.0000	150.0000
207	1.0000	0.0 N	50.0000	200.0000	50.0000	20.0000	0.0 N	0.0 L	70.0000	100.0000
208	1.0000	0.0 L	15.0000	200.0000	50.0000	30.0000	0.0 L	10.0000	50.0000	150.0000
209	0.0 L	0.0 N	70.0000	500.0000	70.0000	20.0000	0.0 N	10.0000	100.0000	70.0000
210	0.0 L	0.0 L	20.0000	200.0000	100.0000	0.0 N	5.0000	10.0000	70.0000	100.0000
211	1.5000	0.0 N	50.0000	300.0000	100.0000	30.0000	0.0 N	10.0000	70.0000	200.0000
212	1.0000	0.0 N	70.0000	700.0000	70.0000	0.0 L	0.0 N	0.0 L	150.0000	30.0000
213	0.0 L	0.0 N	70.0000	300.0000	100.0000	20.0000	0.0 N	0.0 L	150.0000	30.0000
214	0.0 L	0.0 N	70.0000	500.0000	50.0000	20.0000	0.0 N	0.0 L	100.0000	70.0000
215	0.0 N	0.0 N	70.0000	700.0000	150.0000	0.0 L	0.0 N	0.0 L	100.0000	50.0000
216	0.0 L	0.0 N	70.0000	700.0000	70.0000	20.0000	0.0 N	0.0 L	150.0000	70.0000
217	0.0 L	0.0 N	70.0000	500.0000	70.0000	20.0000	0.0 N	0.0 L	150.0000	70.0000
218	0.0 N	0.0 N	20.0000	500.0000	50.0000	30.0000	0.0 N	0.0 L	100.0000	150.0000
219	0.0 N	0.0 N	20.0000	150.0000	30.0000	30.0000	0.0 N	10.0000	0.0 L	30.0000
220	0.0 N	0.0 N	30.0000	150.0000	50.0000	30.0000	0.0 N	0.0 L	100.0000	10.0000
221	0.0 L	0.0 N	70.0000	150.0000	150.0000	20.0000	0.0 N	0.0 L	70.0000	20.0000
222	1.5000	0.0 N	50.0000	1500.0000	70.0000	20.0000	0.0 N	0.0 L	100.0000	100.0000
223	0.0 L	0.0 N	15.0000	200.0000	100.0000	30.0000	0.0 N	0.0 L	70.0000	150.0000
224	0.0 N	0.0 N	70.0000	700.0000	70.0000	0.0 L	0.0 N	0.0 L	100.0000	30.0000
225	0.0 L	0.0 N	15.0000	70.0000	70.0000	0.0 L	0.0 N	0.0 L	50.0000	15.0000
226	0.0 N	0.0 N	70.0000	100.0000	150.0000	0.0 L	0.0 N	0.0 L	70.0000	50.0000
227	0.0 N	0.0 N	30.0000	70.0000	70.0000	0.0 L	0.0 N	0.0 L	50.0000	30.0000
228	2.0000	0.0 N	30.0000	150.0000	50.0000	30.0000	0.0 L	20.0000	70.0000	30.0000
229	2.0000	0.0 N	50.0000	150.0000	70.0000	100.0000	0.0 N	15.0000	70.0000	100.0000
230	2.0000	0.0 N	70.0000	300.0000	70.0000	100.0000	0.0 N	30.0000	70.0000	150.0000
231	2.0000	0.0 N	70.0000	150.0000	70.0000	70.0000	0.0 N	30.0000	70.0000	70.0000
232	1.0000	0.0 N	70.0000	300.0000	150.0000	70.0000	0.0 N	30.0000	100.0000	70.0000
233	2.0000	0.0 N	70.0000	150.0000	100.0000	30.0000	0.0 N	10.0000	70.0000	70.0000
234	1.5000	0.0 N	30.0000	70.0000	50.0000	50.0000	0.0 N	10.0000	50.0000	100.0000
235	0.0 N	0.0 N	15.0000	100.0000	20.0000	0.0 L	0.0 N	0.0 L	70.0000	200.0000
236	0.0 N	0.0 N	15.0000	100.0000	20.0000	0.0 L	0.0 N	0.0 L	30.0000	150.0000
237	0.0 N	0.0 N	10.0000	70.0000	15.0000	0.0 L	0.0 N	0.0 L	10.0000	100.0000
238	0.0 N	0.0 N	70.0000	150.0000	100.0000	0.0 L	0.0 N	0.0 L	70.0000	50.0000
239	0.0 L	0.0 N	70.0000	100.0000	100.0000	0.0 L	0.0 N	0.0 L	70.0000	50.0000
240	0.0 L	0.0 N	70.0000	100.0000	100.0000	0.0 L	0.0 N	0.0 L	70.0000	70.0000
241	0.0 L	0.0 N	50.0000	100.0000	50.0000	20.0000	0.0 N	10.0000	50.0000	70.0000
242	0.0 L	0.0 N	70.0000	100.0000	70.0000	20.0000	0.0 N	0.0 L	70.0000	20.0000
243	0.0 L	0.0 N	70.0000	150.0000	70.0000	0.0 L	0.0 N	0.0 L	70.0000	15.0000
244	0.0 L	0.0 N	100.0000	300.0000	150.0000	0.0 L	0.0 N	0.0 L	100.0000	30.0000
245	0.0 L	0.0 N	70.0000	700.0000	70.0000	20.0000	0.0 N	10.0000	70.0000	30.0000
246	5.0000	0.0 L	15.0000	50.0000	15.0000	70.0000	0.0 N	10.0000	30.0000	70.0000
247	5.0000	0.0 N	10.0000	70.0000	5.0000	70.0000	0.0 N	0.0 L	30.0000	150.0000
248	3.0000	0.0 N	15.0000	70.0000	20.0000	50.0000	0.0 N	0.0 L	30.0000	70.0000
249	1.5000	0.0 N	20.0000	150.0000	20.0000	50.0000	0.0 N	0.0 L	70.0000	70.0000
250	1.5000	0.0 N	15.0000	70.0000	20.0000	30.0000	0.0 N	10.0000	30.0000	20.0000

SEDIMENT SAMPLES WEST ALASKA

SAMPLE	SB PPM		SC PPM		SN PPM		SR PPM		V PPM		W PPM		Y PPM		ZN PPM		ZR PPM
201	0.0	N	30.0000		0.0	N	300.0000		500.0000		0.0	N	50.0000		0.0	L	700.0000
202	0.0	N	50.0000		0.0	N	300.0000		700.0000		0.0	N	30.0000		0.0	L	200.0000
203	0.0	N	30.0000		0.0	N	300.0000		300.0000		0.0	N	30.0000		0.0	N	150.0000
204	0.0	N	30.0000		0.0	N	700.0000		300.0000		0.0	L	30.0000		0.0	L	300.0000
205	0.0	N	30.0000		0.0	N	500.0000		150.0000		0.0	N	30.0000		0.0	N	100.0000
206	0.0	N	20.0000		0.0	N	300.0000		150.0000		0.0	N	20.0000		700.0000		150.0000
207	0.0	N	20.0000		0.0	N	700.0000		300.0000		0.0	N	20.0000		0.0	L	150.0000
208	0.0	N	30.0000		0.0	N	300.0000		150.0000		0.0	N	30.0000		0.0	N	100.0000
209	0.0	N	30.0000		0.0	N	150.0000		300.0000		0.0	N	30.0000		0.0	L	70.0000
210	0.0	N	30.0000		0.0	N	300.0000		150.0000		0.0	N	20.0000		0.0	N	70.0000
211	0.0	N	30.0000		0.0	N	300.0000		300.0000		0.0	N	30.0000		0.0	L	200.0000
212	0.0	N	50.0000		0.0	N	1000.0000		300.0000		0.0	N	50.0000		0.0	N	300.0000
213	0.0	N	50.0000		0.0	N	150.0000		500.0000		0.0	N	30.0000		0.0	L	70.0000
214	0.0	N	30.0000		0.0	N	1000.0000		300.0000		0.0	N	30.0000		0.0	N	300.0000
215	0.0	N	50.0000		0.0	N	200.0000		700.0000		0.0	N	20.0000		0.0	L	70.0000
216	0.0	N	50.0000		0.0	N	700.0000		500.0000		0.0	N	30.0000		0.0	N	300.0000
217	0.0	N	50.0000		0.0	N	200.0000		700.0000		0.0	N	30.0000		0.0	N	150.0000
218	0.0	N	50.0000		0.0	N	1500.0000		500.0000		0.0	N	30.0000		0.0	L	300.0000
219	0.0	N	30.0000		0.0	N	300.0000		200.0000		0.0	N	30.0000		0.0	N	200.0000
220	0.0	N	70.0000		0.0	N	100.0000		500.0000		0.0	N	30.0000		0.0	L	300.0000
221	0.0	N	30.0000		0.0	N	300.0000		500.0000		0.0	N	30.0000		0.0	L	100.0000
222	0.0	N	50.0000		0.0	N	700.0000		300.0000		0.0	N	20.0000		0.0	N	300.0000
223	0.0	N	15.0000		0.0	N	150.0000		300.0000		0.0	N	30.0000		0.0	N	300.0000
224	0.0	N	70.0000		0.0	N	300.0000		500.0000		0.0	N	20.0000		0.0	L	100.0000
225	0.0	N	30.0000		0.0	N	100.0000		300.0000		0.0	N	30.0000		0.0	L	150.0000
226	0.0	N	30.0000		0.0	N	150.0000		700.0000		0.0	L	30.0000		0.0	L	70.0000
227	0.0	N	30.0000		0.0	N	150.0000		500.0000		0.0	N	20.0000		0.0	L	70.0000
228	0.0	N	30.0000		0.0	N	300.0000		200.0000		0.0	N	30.0000		0.0	N	700.0000
229	0.0	N	30.0000		0.0	N	3000.0000		300.0000		0.0	N	70.0000		0.0	N	500.0000
230	0.0	N	50.0000		0.0	N	3000.0000		300.0000		0.0	N	70.0000		0.0	N	500.0000
231	0.0	N	50.0000		0.0	N	2000.0000		300.0000		0.0	N	50.0000		0.0	N	500.0000
232	0.0	N	70.0000		0.0	N	1500.0000		500.0000		0.0	N	70.0000		0.0	N	300.0000
233	0.0	N	30.0000		0.0	N	1000.0000		500.0000		0.0	N	30.0000		0.0	N	300.0000
234	0.0	N	15.0000		0.0	N	1500.0000		200.0000		0.0	N	30.0000		0.0	N	200.0000
235	0.0	N	15.0000		0.0	N	0.0	N	200.0000		0.0	N	15.0000		1500.0000		200.0000
236	0.0	N	20.0000		0.0	N	100.0000		200.0000		0.0	N	15.0000		0.0	L	200.0000
237	0.0	N	7.0000		0.0	N	100.0000		100.0000		0.0	N	10.0000		1500.0000		70.0000
238	0.0	N	30.0000		0.0	N	0.0	L	300.0000		0.0	N	20.0000		0.0	L	70.0000
239	0.0	N	30.0000		0.0	N	150.0000		500.0000		0.0	N	20.0000		0.0	L	70.0000
240	0.0	N	50.0000		0.0	N	200.0000		700.0000		0.0	N	30.0000		0.0	L	70.0000
241	0.0	N	30.0000		0.0	N	200.0000		200.0000		0.0	N	30.0000		1000.0000		100.0000
242	0.0	N	50.0000		0.0	N	200.0000		300.0000		0.0	N	30.0000		0.0	L	70.0000
243	0.0	N	50.0000		0.0	N	300.0000		200.0000		0.0	N	30.0000		500.0000		70.0000
244	0.0	N	70.0000		0.0	N	300.0000		300.0000		0.0	N	30.0000		700.0000		70.0000
245	0.0	N	100.0000		0.0	N	300.0000		500.0000		0.0	N	30.0000		300.0000		150.0000
246	0.0	N	7.0000		0.0	N	700.0000		150.0000		0.0	N	30.0000		0.0	N	300.0000
247	0.0	N	0.0	L	0.0	N	1000.0000		200.0000		0.0	N	30.0000		0.0	N	300.0000
248	0.0	N	0.0	L	0.0	N	1000.0000		150.0000		0.0	N	20.0000		0.0	N	200.0000
249	0.0	N	15.0000		0.0	N	700.0000		300.0000		0.0	N	30.0000		0.0	N	300.0000
250	0.0	N	15.0000		0.0	N	100.0000		150.0000		0.0	L	20.0000		0.0	N	100.0000

SEDIMENT SAMPLES WEST ALASKA

SAMPLE	FE PCT	MG PCT	CA PCT	TI PCT	MN PPM	AG PPM	AS PPM	AU PPM	B PPM	BA PPM
251	7.0000	1.5000	0.5000	0.3000	1000.0000	0.0 N	0.0 N	0.0 N	50.0000	700.0000
252	7.0000	2.0000	1.0000	0.3000	1000.0000	0.0 N	0.0 N	0.0 N	50.0000	1000.0000
253	10.0000	1.5000	1.0000	0.2000	300.0000	0.0 N	0.0 N	0.0 N	50.0000	700.0000
254	7.0000	2.0000	3.0000	0.5000	1000.0000	0.0 N	0.0 N	0.0 N	20.0000	1500.0000
255	10.0000	3.0000	5.0000	0.7000	2000.0000	0.0 N	0.0 N	0.0 N	15.0000	500.0000
256	10.0000	3.0000	3.0000	1.0000	2000.0000	0.0 N	0.0 N	0.0 N	30.0000	500.0000
257	10.0000	3.0000	5.0000	0.5000	1000.0000	0.0 N	0.0 N	0.0 N	15.0000	700.0000
258	10.0000	5.0000	5.0000	0.7000	2000.0000	0.0 N	0.0 N	0.0 N	10.0000	1500.0000
259	10.0000	3.0000	5.0000	0.5000	2000.0000	0.0 N	0.0 N	0.0 N	30.0000	1000.0000
260	15.0000	5.0000	3.0000	1.0000G	1500.0000	0.0 N	0.0 N	0.0 N	20.0000	1000.0000
261	3.0000	1.5000	1.5000	0.5000	3000.0000	0.0 N	0.0 N	0.0 N	30.0000	700.0000
262	20.0000	7.0000	7.0000	1.0000	2000.0000	0.0 N	0.0 N	0.0 N	20.0000	700.0000
263	10.0000	2.0000	2.0000	0.5000	1000.0000	0.0 N	0.0 N	0.0 N	20.0000	1000.0000
264	10.0000	3.0000	3.0000	1.0000	2000.0000	0.0 N	0.0 N	0.0 N	15.0000	1500.0000
265	15.0000	3.0000	5.0000	1.0000	3000.0000	0.0 N	0.0 N	0.0 N	15.0000	1000.0000
266	20.0000	10.0000	7.0000	1.0000G	1500.0000	0.0 N	0.0 N	0.1000	20.0000	1500.0000
267	15.0000	10.0000	7.0000	1.0000G	1500.0000	0.0 N	0.0 N	0.0 N	20.0000	1500.0000
268	15.0000	3.0000	5.0000	1.0000	2000.0000	0.0 N	0.0 N	0.0 N	15.0000	1000.0000
269	20.0000	10.0000	7.0000	1.0000G	2000.0000	0.0 N	0.0 N	0.0 N	10.0000	1500.0000
270	10.0000	3.0000	5.0000	0.7000	1500.0000	0.0 N	0.0 N	0.0 N	10.0000	1000.0000
271	10.0000	3.0000	3.0000	0.7000	1500.0000	0.0 N	0.0 N	0.0 N	30.0000	1500.0000
272	10.0000	3.0000	3.0000	1.0000	1500.0000	0.0 N	0.0 N	0.0 N	20.0000	700.0000
273	15.0000	3.0000	3.0000	1.0000	1500.0000	0.0 N	0.0 N	0.0 N	20.0000	1500.0000
274	15.0000	3.0000	3.0000	0.7000	2000.0000	0.0 N	0.0 N	0.0 N	30.0000	1500.0000
275	15.0000	3.0000	5.0000	0.7000	2000.0000	0.0 N	0.0 N	0.0 N	20.0000	1500.0000
276	10.0000	7.0000	5.0000	1.0000	1500.0000	0.0 N	0.0 N	0.0 N	15.0000	1500.0000
277	5.0000	3.0000	3.0000	1.0000G	700.0000	0.0 L	0.0 N	0.0 N	30.0000	1500.0000
278	15.0000	3.0000	3.0000	0.7000	700.0000	0.0 L	0.0 N	0.0 N	50.0000	1500.0000
279	10.0000	1.0000	2.0000	0.5000	2000.0000	0.0 N	0.0 N	0.0 N	30.0000	1500.0000
280	7.0000	1.5000	1.0000	0.3000	300.0000	0.7000	0.0 N	0.0 N	0.0 L	1500.0000
281	5.0000	1.5000	1.5000	0.2000	700.0000	0.7000	0.0 N	0.0 N	30.0000	1500.0000
282	5.0000	1.5000	1.5000	0.7000	1500.0000	0.0 L	0.0 N	0.0 N	30.0000	1500.0000
283	10.0000	3.0000	5.0000	1.0000	1000.0000	0.5000	0.0 N	0.0 N	20.0000	1500.0000
284	10.0000	3.0000	3.0000	0.7000	500.0000	0.0 L	0.0 N	0.0 N	30.0000	2000.0000
285	7.0000	2.0000	3.0000	0.7000	700.0000	0.0 N	0.0 N	0.0 N	10.0000	1500.0000
286	10.0000	3.0000	3.0000	0.7000	1000.0000	0.0 N	0.0 N	0.0 N	15.0000	1000.0000
287	10.0000	2.0000	2.0000	0.5000	1000.0000	0.0 N	0.0 N	0.0 N	70.0000	700.0000
288	10.0000	3.0000	2.0000	0.5000	3000.0000	0.0 N	0.0 N	0.0 N	50.0000	1000.0000
289	2.0000	0.5000	1.0000	0.1500	300.0000	0.0 L	0.0 N	0.0 N	15.0000	1000.0000
290	3.0000	1.5000	1.5000	0.7000	700.0000	0.0 N	0.0 N	0.0 N	15.0000	1500.0000
291	7.0000	1.5000	1.5000	1.0000	1000.0000	0.0 N	0.0 N	0.0 N	50.0000	1500.0000
292	5.0000	1.0000	3.0000	0.5000	700.0000	0.0 L	0.0 N	0.0 N	30.0000	1500.0000
293	5.0000	1.0000	2.0000	0.7000	500.0000	0.0 N	0.0 N	0.0 N	20.0000	1500.0000
294	5.0000	1.5000	2.0000	0.3000	1000.0000	0.0 N	0.0 N	0.0 N	30.0000	1500.0000
295	7.0000	1.5000	3.0000	0.5000	700.0000	0.0 N	0.0 N	0.0 N	15.0000	1500.0000
296	15.0000	3.0000	3.0000	1.0000	1000.0000	0.0 L	0.0 N	0.0 N	15.0000	3000.0000
297	10.0000	3.0000	3.0000	1.0000	1000.0000	0.0 N	0.0 N	0.0 N	15.0000	2000.0000
298	10.0000	3.0000	2.0000	0.5000	1000.0000	0.0 N	0.0 N	0.0 N	30.0000	1500.0000
299	7.0000	3.0000	5.0000	0.5000	1000.0000	0.0 N	0.0 N	0.0 N	30.0000	1500.0000
300	7.0000	2.0000	2.0000	0.3000	1000.0000	0.0 N	0.0 N	0.0 N	30.0000	700.0000

SEDIMENT SAMPLES WEST ALASKA

SAMPLE	BE PPM	BI PPM	CO PPM	CR PPM	CU PPM	LA PPM	MO PPM	NB PPM	NI PPM	PB PPM
251	0.0 L	0.0 L	20.0000	50.0000	30.0000	20.0000	0.0 N	10.0000	50.0000	50.0000
252	0.0 L	0.0 N	15.0000	70.0000	30.0000	20.0000	0.0 N	0.0 L	50.0000	30.0000
253	1.5000	0.0 N	20.0000	70.0000	30.0000	30.0000	0.0 N	0.0 L	50.0000	20.0000
254	2.0000	0.0 L	20.0000	150.0000	15.0000	70.0000	0.0 N	15.0000	70.0000	100.0000
255	0.0 N	0.0 N	100.0000	700.0000	100.0000	0.0 N	0.0 N	0.0 L	150.0000	0.0 L
256	0.0 N	0.0 N	50.0000	300.0000	70.0000	0.0 L	0.0 N	0.0 L	150.0000	10.0000
257	0.0 N	0.0 L	70.0000	700.0000	200.0000	0.0 L	0.0 N	0.0 L	150.0000	20.0000
258	0.0 N	0.0 N	100.0000	700.0000	150.0000	0.0 N	0.0 N	0.0 L	150.0000	0.0 L
259	0.0 N	0.0 N	100.0000	700.0000	300.0000	0.0 N	0.0 N	0.0 L	150.0000	10.0000
260	3.0000	0.0 N	70.0000	150.0000	100.0000	0.0 L	15.0000	10.0000	100.0000	100.0000
261	1.5000	0.0 N	5.0000	70.0000	15.0000	20.0000	0.0 N	0.0 L	200.0000	15.0000
262	0.0 L	0.0 N	100.0000	700.0000	150.0000	0.0 L	0.0 N	0.0 L	150.0000	20.0000
263	1.5000	0.0 N	50.0000	200.0000	30.0000	20.0000	0.0 N	0.0 L	100.0000	30.0000
264	0.0 N	0.0 N	70.0000	300.0000	100.0000	30.0000	0.0 N	0.0 L	150.0000	0.0 L
265	0.0 N	0.0 N	70.0000	700.0000	150.0000	20.0000	0.0 N	0.0 L	150.0000	10.0000
266	0.0 L	0.0 N	100.0000	700.0000	150.0000	20.0000	0.0 N	0.0 L	150.0000	15.0000
267	1.5000	0.0 N	70.0000	700.0000	100.0000	20.0000	7.0000	0.0 L	200.0000	30.0000
268	0.0 N	0.0 N	50.0000	2000.0000	100.0000	20.0000	0.0 N	0.0 L	150.0000	10.0000
269	0.0 L	0.0 N	100.0000	700.0000	100.0000	0.0 L	0.0 N	0.0 L	150.0000	70.0000
270	1.5000	0.0 N	50.0000	500.0000	150.0000	0.0 L	0.0 N	0.0 L	150.0000	20.0000
271	1.5000	0.0 N	15.0000	100.0000	30.0000	0.0 L	0.0 N	0.0 L	70.0000	70.0000
272	1.5000	0.0 N	20.0000	150.0000	70.0000	20.0000	0.0 N	0.0 L	100.0000	20.0000
273	1.5000	0.0 N	20.0000	150.0000	100.0000	30.0000	0.0 N	0.0 L	100.0000	70.0000
274	1.5000	0.0 N	50.0000	200.0000	70.0000	0.0 N	0.0 N	0.0 L	150.0000	50.0000
275	1.5000	0.0 N	20.0000	500.0000	150.0000	30.0000	0.0 N	0.0 L	150.0000	70.0000
276	2.0000	0.0 N	70.0000	300.0000	70.0000	0.0 L	0.0 N	10.0000	70.0000	70.0000
277	1.5000	0.0 N	5.0000	70.0000	50.0000	50.0000	0.0 L	15.0000	15.0000	500.0000
278	3.0000	0.0 N	20.0000	150.0000	70.0000	70.0000	7.0000	30.0000	50.0000	100.0000
279	3.0000	0.0 N	15.0000	30.0000	50.0000	50.0000	30.0000	0.0 L	70.0000	200.0000
280	1.5000	0.0 N	10.0000	50.0000	70.0000	50.0000	10.0000	20.0000	15.0000	300.0000
281	3.0000	0.0 N	10.0000	50.0000	70.0000	50.0000	20.0000	30.0000	10.0000	300.0000
282	2.0000	0.0 N	20.0000	70.0000	30.0000	70.0000	15.0000	30.0000	20.0000	150.0000
283	3.0000	0.0 N	15.0000	150.0000	300.0000	150.0000	30.0000	30.0000	50.0000	150.0000
284	3.0000	0.0 N	10.0000	100.0000	150.0000	50.0000	30.0000	15.0000	20.0000	150.0000
285	1.0000	0.0 N	20.0000	150.0000	200.0000	50.0000	7.0000	0.0 L	70.0000	150.0000
286	1.0000	0.0 N	15.0000	150.0000	100.0000	50.0000	0.0 N	0.0 L	30.0000	100.0000
287	1.5000	0.0 N	20.0000	150.0000	30.0000	70.0000	0.0 N	0.0 L	100.0000	70.0000
288	1.5000	0.0 N	20.0000	100.0000	20.0000	30.0000	0.0 N	10.0000	70.0000	20.0000
289	7.0000	0.0 N	0.0 L	7.0000	7.0000	0.0 L	0.0 N	0.0 L	5.0000	70.0000
290	3.0000	0.0 N	0.0 L	30.0000	50.0000	0.0 L	0.0 L	0.0 L	7.0000	150.0000
291	7.0000	0.0 N	10.0000	50.0000	70.0000	30.0000	0.0 L	10.0000	20.0000	100.0000
292	7.0000	0.0 N	5.0000	20.0000	15.0000	20.0000	0.0 N	0.0 L	15.0000	150.0000
293	3.0000	0.0 N	0.0 L	15.0000	15.0000	0.0 L	0.0 N	0.0 L	7.0000	100.0000
294	3.0000	0.0 N	5.0000	15.0000	30.0000	0.0 L	0.0 N	0.0 L	10.0000	70.0000
295	2.0000	0.0 N	0.0 L	30.0000	15.0000	0.0 L	0.0 N	0.0 L	10.0000	100.0000
296	1.5000	0.0 N	15.0000	100.0000	30.0000	0.0 L	0.0 N	0.0 L	70.0000	150.0000
297	3.0000	0.0 N	10.0000	70.0000	50.0000	0.0 L	0.0 N	0.0 L	30.0000	150.0000
298	0.0 L	0.0 N	20.0000	100.0000	50.0000	30.0000	0.0 N	0.0 L	70.0000	30.0000
299	1.5000N	0.0 N	20.0000	150.0000	100.0000	30.0000	0.0 N	0.0 L	100.0000	70.0000
300	1.0000	0.0 L	20.0000	100.0000	20.0000	30.0000	0.0 N	0.0 L	70.0000	30.0000

SEDIMENT SAMPLES WEST ALASKA

SAMPLE	SB PPM	SC PPM	SN PPM	SR PPM	V PPM	W PPM	Y PPM	ZN PPM	ZR PPM
251	0.0 N	15.0000	0.0 N	200.0000	150.0000	0.0 N	15.0000	0.0 L	100.0000
252	0.0 N	15.0000	0.0 N	500.0000	150.0000	0.0 N	15.0000	0.0 L	200.0000
253	0.0 N	20.0000	0.0 N	300.0000	150.0000	0.0 N	15.0000	200.0000	150.0000
254	0.0 N	15.0000	0.0 N	700.0000	200.0000	0.0 N	50.0000	0.0 N	300.0000
255	0.0 N	30.0000	0.0 N	0.0 L	300.0000	0.0 N	15.0000	0.0 L	50.0000
256	0.0 N	30.0000	0.0 N	0.0 L	500.0000	0.0 N	15.0000	0.0 L	200.0000
257	0.0 N	50.0000	0.0 N	500.0000	300.0000	0.0 N	30.0000	0.0 L	70.0000
258	0.0 N	70.0000	0.0 N	300.0000	500.0000	0.0 N	20.0000	0.0 N	100.0000
259	0.0 N	70.0000	0.0 N	300.0000	500.0000	0.0 N	20.0000	0.0 N	200.0000
260	0.0 N	30.0000	0.0 N	700.0000	300.0000	0.0 N	30.0000	0.0 N	500.0000
261	0.0 N	15.0000	0.0 N	150.0000	200.0000	0.0 N	15.0000	0.0 N	70.0000
262	0.0 N	70.0000	0.0 N	700.0000	500.0000	0.0 N	30.0000	0.0 N	150.0000
263	0.0 N	30.0000	0.0 N	500.0000	200.0000	0.0 N	30.0000	0.0 N	70.0000
264	0.0 N	50.0000	0.0 N	300.0000	300.0000	0.0 N	20.0000	0.0 N	300.0000
265	0.0 N	50.0000	0.0 N	300.0000	500.0000	0.0 N	20.0000	0.0 N	300.0000
266	0.0 N	70.0000	0.0 N	700.0000	500.0000	0.0 N	30.0000	0.0 N	300.0000
267	0.0 N	70.0000	0.0 N	700.0000	500.0000	0.0 N	30.0000	0.0 N	200.0000
268	0.0 N	50.0000	0.0 N	500.0000	500.0000	0.0 N	30.0000	0.0 L	300.0000
269	0.0 N	70.0000	0.0 N	700.0000	500.0000	0.0 N	15.0000	0.0 N	200.0000
270	0.0 N	30.0000	0.0 N	300.0000	300.0000	0.0 N	15.0000	0.0 N	200.0000
271	0.0 N	10.0000	0.0 N	500.0000	300.0000	0.0 N	15.0000	0.0 N	200.0000
272	0.0 N	30.0000	0.0 N	500.0000	500.0000	0.0 N	30.0000	0.0 N	300.0000
273	0.0 N	30.0000	0.0 N	700.0000	300.0000	0.0 N	20.0000	0.0 N	200.0000
274	0.0 N	30.0000	0.0 N	500.0000	300.0000	0.0 N	30.0000	0.0 N	200.0000
275	0.0 N	30.0000	0.0 N	700.0000	300.0000	0.0 N	20.0000	0.0 N	100.0000
276	0.0 N	30.0000	0.0 N	700.0000	300.0000	0.0 N	20.0000	0.0 N	70.0000
277	0.0 N	10.0000	0.0 N	1500.0000	150.0000	0.0 N	30.0000	0.0 N	700.0000
278	0.0 N	20.0000	0.0 N	1000.0000	200.0000	0.0 N	50.0000	0.0 L	300.0000
279	0.0 N	5.0000	0.0 N	700.0000	50.0000	0.0 N	10.0000	0.0 N	300.0000
280	0.0 N	5.0000	0.0 N	700.0000	100.0000	0.0 N	15.0000	0.0 N	150.0000
281	0.0 N	7.0000	0.0 L	1500.0000	100.0000	0.0 N	20.0000	0.0 N	300.0000
282	0.0 N	10.0000	0.0 L	1000.0000	100.0000	0.0 N	30.0000	0.0 N	500.0000
283	0.0 N	30.0000	0.0 N	1500.0000	300.0000	0.0 L	50.0000	0.0 N	700.0000
284	0.0 N	20.0000	0.0 N	1500.0000	150.0000	0.0 L	30.0000	0.0 N	300.0000
285	0.0 N	15.0000	0.0 N	700.0000	150.0000	0.0 N	20.0000	0.0 N	300.0000
286	0.0 N	15.0000	0.0 N	700.0000	150.0000	0.0 N	20.0000	0.0 N	300.0000
287	0.0 N	20.0000	0.0 N	200.0000	300.0000	0.0 N	30.0000	0.0 L	300.0000
288	0.0 N	15.0000	0.0 N	200.0000	200.0000	0.0 N	30.0000	0.0 L	300.0000
289	0.0 N	0.0 L	0.0 N	700.0000	70.0000	0.0 L	0.0 L	0.0 N	100.0000
290	0.0 N	0.0 L	0.0 L	1000.0000	70.0000	0.0 L	10.0000	0.0 N	100.0000
291	0.0 N	7.0000	0.0 L	1000.0000	150.0000	0.0 L	30.0000	0.0 N	300.0000
292	0.0 N	0.0 L	0.0 N	1500.0000	70.0000	0.0 N	15.0000	0.0 N	150.0000
293	0.0 N	0.0 L	0.0 N	1000.0000	70.0000	0.0 N	10.0000	0.0 N	100.0000
294	0.0 N	0.0 L	0.0 N	1500.0000	70.0000	0.0 N	10.0000	0.0 N	150.0000
295	0.0 N	0.0 L	0.0 N	1500.0000	70.0000	0.0 N	0.0 L	0.0 N	100.0000
296	0.0 N	7.0000	0.0 N	1500.0000	150.0000	0.0 N	30.0000	0.0 N	150.0000
297	0.0 N	10.0000	0.0 N	1500.0000	150.0000	0.0 N	15.0000	0.0 N	50.0000
298	0.0 N	30.0000	0.0 N	500.0000	300.0000	0.0 N	30.0000	200.0000	200.0000
299	0.0 N	30.0000	0.0 N	500.0000	200.0000	0.0 N	30.0000	0.0 L	200.0000
300	0.0 N	20.0000	0.0 N	300.0000	200.0000	0.0 N	20.0000	0.0 L	150.0000

SEDIMENT SAMPLES WEST ALASKA

SAMPLE	FE PCT	MG PCT	CA PCT	TI PCT	MN PPM	AG PPM		AS PPM		AU PPM		B PPM	BA PPM
301	5.0000	1.5000	1.0000	0.3000	500.0000	0.0	N	0.0	L	0.0	N	50.0000	700.0000
302	5.0000	2.0000	2.0000	0.3000	700.0000	0.0	N	0.0	N	0.0	N	30.0000	700.0000
303	5.0000	1.5000	0.7000	0.3000	1000.0000	0.0	N	0.0	N	0.0	N	50.0000	500.0000
304	5.0000	1.0000	0.7000	0.2000	500.0000	0.0	N	0.0	N	0.0	N	50.0000	700.0000
305	7.0000	3.0000	3.0000	0.7000	5000.0000	0.0	N	0.0	N	0.0	N	30.0000	700.0000
306	10.0000	5.0000	3.0000	0.7000	1500.0000	0.0	N	0.0	N	0.0	N	70.0000	700.0000
307	10.0000	5.0000	5.0000	0.7000	1500.0000	0.0	N	0.0	N	0.0	N	70.0000	700.0000
308	15.0000	5.0000	3.0000	1.0000	2000.0000	0.0	L	0.0	N	0.0	N	70.0000	700.0000
309	10.0000	5.0000	3.0000	1.0000	1500.0000	0.0	N	0.0	N	0.0	N	100.0000	700.0000
310	10.0000	3.0000	1.0000	1.0000	300.0000	0.0	N	0.0	N	0.0	N	100.0000	700.0000
311	10.0000	3.0000	3.0000	1.0000	2000.0000	0.0	N	0.0	N	0.0	N	70.0000	700.0000
312	10.0000	3.0000	2.0000	1.0000	700.0000	0.0	L	0.0	N	0.0	N	70.0000	700.0000

SEDIMENT SAMPLES WEST ALASKA

SAMPLE	BE PPM	BI PPM	CO PPM	CR PPM	CU PPM	LA PPM	MO PPM	NB PPM	NI PPM	PB PPM
301	0.0 L	0.0 N	15.0000	100.0000	15.0000	50.0000	0.0 N	0.0 L	30.0000	30.0000
302	1.0000	0.0 L	15.0000	150.0000	15.0000	0.0 L	0.0 N	10.0000	70.0000	30.0000
303	1.0000	0.0 N	15.0000	70.0000	50.0000	30.0000	0.0 N	10.0000	50.0000	30.0000
304	1.0000	0.0 L	15.0000	100.0000	50.0000	20.0000	0.0 N	0.0 L	50.0000	30.0000
305	0.0 L	0.0 N	70.0000	150.0000	70.0000	20.0000	0.0 N	0.0 L	70.0000	30.0000
306	0.0 L	0.0 N	70.0000	300.0000	50.0000	20.0000	0.0 N	0.0 L	100.0000	15.0000
307	0.0 L	0.0 N	50.0000	300.0000	70.0000	30.0000	0.0 N	0.0 L	70.0000	15.0000
308	0.0 L	0.0 N	70.0000	300.0000	50.0000	30.0000	0.0 N	10.0000	70.0000	15.0000
309	1.0000	0.0 N	70.0000	200.0000	70.0000	30.0000	0.0 N	0.0 L	70.0000	20.0000
310	1.0000	0.0 N	70.0000	200.0000	50.0000	30.0000	0.0 N	10.0000	70.0000	15.0000
311	1.0000	0.0 N	50.0000	300.0000	50.0000	30.0000	0.0 N	0.0 L	70.0000	20.0000
312	0.0 L	0.0 N	50.0000	200.0000	70.0000	20.0000	0.0 N	0.0 L	70.0000	30.0000

SEDIMENT SAMPLES WEST ALASKA

SAMPLE	SB PPM		SC PPM	SN PPM		SR PPM	V PPM	W PPM		Y PPM	ZN PPM		ZR PPM
301	0.0	N	15.0000	0.0	N	200.0000	150.0000	0.0	N	20.0000	0.0	L	300.0000
302	0.0	N	20.0000	0.0	N	300.0000	200.0000	0.0	N	20.0000	0.0	N	100.0000
303	0.0	N	20.0000	0.0	N	150.0000	200.0000	0.0	N	20.0000	0.0	N	150.0000
304	0.0	N	15.0000	0.0	N	200.0000	150.0000	0.0	N	15.0000	0.0	N	100.0000
305	0.0	N	30.0000	0.0	N	300.0000	300.0000	0.0	N	30.0000	0.0	L	100.0000
306	0.0	N	30.0000	0.0	N	100.0000	300.0000	0.0	N	30.0000	0.0	N	100.0000
307	0.0	N	30.0000	0.0	N	150.0000	300.0000	0.0	N	50.0000	0.0	N	150.0000
308	0.0	N	30.0000	0.0	N	100.0000	300.0000	0.0	N	50.0000	0.0	N	200.0000
309	0.0	N	30.0000	0.0	N	200.0000	500.0000	0.0	N	50.0000	0.0	N	200.0000
310	0.0	N	20.0000	0.0	N	100.0000	200.0000	0.0	N	50.0000	0.0	N	300.0000
311	0.0	N	30.0000	0.0	N	150.0000	300.0000	0.0	N	50.0000	0.0	N	300.0000
312	0.0	N	30.0000	0.0	N	200.0000	300.0000	0.0	N	30.0000	0.0	N	200.0000

THE FREQUENCY DISTRIBUTIONS AND HISTOGRAMS ON THE FOLLOWING PAGES ARE ON LOGARITHMIC SCALES, AND EMPLOY THE SAME CLASS INTERVALS AS USED IN REPORTING 6-STEP SEMIQUANTITATIVE SPECTROGRAPHIC ANALYSES. IMPORTANT NOTE- THE STATISTICS GIVEN BELOW THE HISTOGRAMS ARE DERIVED ONLY FROM DATA VALUES WITHIN THE RANGES OF ANALYTICAL DETERMINATION, AND ARE, THEREFORE, BIASED IF DATA VALUES QUALIFIED WITH N, L, G, T, OR H CODES ARE PRESENT. SEE LATER SECTION OF OUTPUT FOR STATISTICAL ESTIMATES THAT ARE UNBIASED IN THIS REGARD. THE GEOMETRIC MEAN IS AN ESTIMATE OF 'CENTRAL TENDENCY,' OR OF A CHARACTERISTIC VALUE, OF A FREQUENCY DISTRIBUTION THAT IS APPROXIMATELY SYMMETRICAL ON A LOG SCALE, AND IS THEREFORE USEFUL FOR CHARACTERIZING MANY GEOCHEMICAL DISTRIBUTIONS. THE GEOMETRIC MEAN IS NOT AN ESTIMATE OF GEOCHEMICAL ABUNDANCE AND IS OF NO VALUE IN ESTIMATING RESERVES OR TOTAL AMOUNTS OF ELEMENTS PRESENT. SEE USGS PROFESSIONAL PAPER 574-B FOR FURTHER DISCUSSION. SEE USGS BULLETIN 1147E, PAGE 23, FOR EXPLANATION OF GEOMETRIC DEVIATION.

FREQUENCY TABLE FOR COLUMN 1 (FF PCT)

LIMITS LOWER - UPPER		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
3.8E-02 -	5.6E-02	0	0	0.0	0.0
5.6E-02 -	8.3E-02	0	0	0.0	0.0
8.3E-02 -	1.2E-01	0	0	0.0	0.0
1.2E-01 -	1.8E-01	0	0	0.0	0.0
1.8E-01 -	2.6E-01	0	0	0.0	0.0
2.6E-01 -	3.8E-01	0	0	0.0	0.0
3.8E-01 -	5.6E-01	0	0	0.0	0.0
5.6E-01 -	8.3E-01	0	0	0.0	0.0
8.3E-01 -	1.2E 00	0	0	0.0	0.0
1.2E 00 -	1.8E 00	0	0	0.0	0.0
1.8E 00 -	2.6E 00	4	4	1.28	1.28
2.6E 00 -	3.8E 00	13	17	4.17	5.45
3.8E 00 -	5.6E 00	50	67	16.03	21.47
5.6E 00 -	8.3E 00	52	119	16.67	38.14
8.3E 00 -	1.2E 01	73	192	23.40	61.54
1.2E 01 -	1.8E 01	84	276	26.92	88.46
1.8E 01 -	2.6E 01	34	310	10.90	99.36

HISTOGRAM FOR COLUMN 1 (FF PCT)

```
2.0E 00 X
3.0E 00 XXXX
5.0E 00 XXXXXXXXXXXXXXX
7.0E 00 XXXXXXXXXXXXXXXX
1.0E 01 XXXXXXXXXXXXXXXXXXXXXXX
1.5E 01 XXXXXXXXXXXXXXXXXXXXXXXXXXX
2.0E 01 XXXXXXXXXXX
```

N	L	H	B	T	G	ANALYTICAL VALUES
0	0	0	0	0	2	310
0.0	0.0			0.0	0.64	

MAXIMUM = 2.00000E 01

MINIMUM = 2.00000E 00

GEOMETRIC MEAN = 9.44526E 00

GEOMETRIC DEVIATION = 1.71048E 00

Explanation

Semiquantitative spectrographic analyses by the U.S. Geological Survey are reported as geometric midpoints (1, 0.7, 0.5, 0.3, 0.2, 0.15, 0.1, etc.) of geometric brackets having the boundaries 1.2, 0.83, 0.56, 0.38, 0.26, 0.18, 0.083, etc. The frequency distributions are computed using these brackets as class intervals.

The letter E after a value stands for decimal exponent and is followed by a signed or unsigned, one- or two-digit integer constant. In this case, a value 1.0E-01 means 1.0 X 10^{-1} or 0.1, a value 1.0E 01 means 1.0 X 10^{1} or 10.0, a value 1.0E-02 means 1.0 X 10^{-2} or .01, a value 1.0E 02 means 1.0 X 10^{2} or 100, etc.

Histograms represent percent frequency distribution where each X equals one percent.

FREQUENCY TABLE FOR COLUMN 2 (MG PCT)

LIMITS LOWER - UPPER		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
1.8E-02 -	2.6E-02	0	0	0.0	0.0
2.6E-02 -	3.8E-02	0	0	0.0	0.0
3.8E-02 -	5.6E-02	0	0	0.0	0.0
5.6E-02 -	8.3E-02	0	0	0.0	0.0
8.3E-02 -	1.2E-01	1	1	0.32	0.32
1.2E-01 -	1.8E-01	0	1	0.0	0.32
1.8E-01 -	2.6E-01	0	1	0.0	0.32
2.6E-01 -	3.8E-01	2	3	0.64	0.96
3.8E-01 -	5.6E-01	5	8	1.60	2.56
5.6E-01 -	8.3E-01	15	23	4.81	7.37
8.3E-01 -	1.2E 00	23	46	7.37	14.74
1.2E 00 -	1.8E 00	43	89	13.78	28.53
1.8E 00 -	2.6E 00	50	139	16.03	44.55
2.6E 00 -	3.8E 00	78	217	25.00	69.55
3.8E 00 -	5.6E 00	39	256	12.50	82.05
5.6E 00 -	8.3E 00	50	306	16.03	98.08
8.3E 00 -	1.2E 01	6	312	1.92	100.00

HISTOGRAM FOR COLUMN 2 (MG PCT)

```
3.0E-01 X
5.0E-01 XX
7.0E-01 XXXXX
1.0E 00 XXXXXXX
1.5E 00 XXXXXXXXXXXXX
2.0E 00 XXXXXXXXXXXXXXX
3.0E 00 XXXXXXXXXXXXXXXXXXXXXXXXX
5.0E 00 XXXXXXXXXXXXX
7.0E 00 XXXXXXXXXXXXXXX
1.0E 01 XX
```

N	L	H	R	T	G	ANALYTICAL VALUES
0	0	0	0	0	0	312
0.0	0.0			0.0	0.0	

MAXIMUM = 1.00000E 01

MINIMUM = 1.00000E-01

GEOMETRIC MEAN = 2.60011E 00

GEOMETRIC DEVIATION = 2.11736E 00

Explanation

Semiquantitative spectrographic analyses by the U.S. Geological Survey are reported as geometric midpoints (1, 0.7, 0.5, 0.3, 0.2, 0.15, 0.1, etc.) of geometric brackets having the boundaries 1.2, 0.83, 0.56, 0.38, 0.26, 0.18, 0.083, etc. The frequency distributions are computed using these brackets as class intervals.

The letter E after a value stands for decimal exponent and is followed by a signed or unsigned, one- or two-digit integer constant. In this case, a value 1.0E-01 means 1.0×10^{-1} or 0.1, a value 1.0E 01 means 1.0×10^{1} or 10.0, a value 1.0E-02 means 1.0×10^{-2} or .01, a value 1.0E 02 means 1.0×10^{2} or 100, etc.

Histograms represent percent frequency distribution where each X equals one percent.

FREQUENCY TABLE FOR COLUMN 3 (CA PCT)

LIMITS LOWER - UPPER		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
3.8E-02 -	5.6E-02	0	0	0.0	0.0
5.6E-02 -	8.3E-02	0	0	0.0	0.0
8.3E-02 -	1.2E-01	0	0	0.0	0.0
1.2E-01 -	1.8E-01	1	1	0.32	0.32
1.8E-01 -	2.6E-01	1	2	0.32	0.64
2.6E-01 -	3.8E-01	0	2	0.0	0.64
3.8E-01 -	5.6E-01	9	11	2.88	3.53
5.6E-01 -	8.3E-01	15	26	4.81	8.33
8.3E-01 -	1.2E 00	31	57	9.94	18.27
1.2E 00 -	1.8E 00	31	88	9.94	28.21
1.8E 00 -	2.6E 00	51	139	16.35	44.55
2.6E 00 -	3.8E 00	80	219	25.64	70.19
3.8E 00 -	5.6E 00	51	270	16.35	86.54
5.6E 00 -	8.3E 00	33	303	10.58	97.12
8.3E 00 -	1.2E 01	4	307	1.28	98.40
1.2E 01 -	1.8E 01	5	312	1.60	100.00

HISTOGRAM FOR COLUMN 3 (CA PCT)

```
5.0E-01 XXX
7.0E-01 XXXXX
1.0E 00 XXXXXXXXXX
1.5E 00 XXXXXXXXXX
2.0E 00 XXXXXXXXXXXXXXXX
3.0E 00 XXXXXXXXXXXXXXXXXXXXXXXXXX
5.0E 00 XXXXXXXXXXXXXXXX
7.0E 00 XXXXXXXXXXX
1.0E 01 X
1.5E 01 XX
```

N	L	H	R	T	G	ANALYTICAL VALUES
0	0	0	0	0	0	312
0.0	0.0			0.0	0.0	

MAXIMUM = 1.50000E 01

MINIMUM = 1.50000E-01

GEOMETRIC MEAN = 2.53124E 00

GEOMETRIC DEVIATION = 2.15983E 00

Explanation

Semiquantitative spectrographic analyses by the U.S. Geological Survey are reported as geometric midpoints (1, 0.7, 0.5, 0.3, 0.2, 0.15, 0.1, etc.) of geometric brackets having the boundaries 1.2, 0.83, 0.56, 0.38, 0.26, 0.18, 0.083, etc. The frequency distributions are computed using these brackets as class intervals.

The letter E after a value stands for decimal exponent and is followed by a signed or unsigned, one- or two-digit integer constant. In this case, a value 1.0E-01 means 1.0×10^{-1} or 0.1, a value 1.0E 01 means 1.0×10^{1} or 10.0, a value 1.0E-02 means 1.0×10^{-2} or .01, a value 1.0E 02 means 1.0×10^{2} or 100, etc.

Histograms represent percent frequency distribution where each X equals one percent.

FREQUENCY TABLE FOR COLUMN 4 (TI PCT)

LIMITS LOWER - UPPER		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
8.3E-04 -	1.2E-03	0	0	0.0	0.0
1.2E-03 -	1.8E-03	0	0	0.0	0.0
1.8E-03 -	2.6E-03	0	0	0.0	0.0
2.6E-03 -	3.8E-03	0	0	0.0	0.0
3.8E-03 -	5.6E-03	0	0	0.0	0.0
5.6E-03 -	8.3E-03	0	0	0.0	0.0
8.3E-03 -	1.2E-02	1	1	0.32	0.32
1.2E-02 -	1.8E-02	0	1	0.0	0.32
1.8E-02 -	2.6E-02	0	1	0.0	0.32
2.6E-02 -	3.8E-02	1	2	0.32	0.64
3.8E-02 -	5.6E-02	0	2	0.0	0.64
5.6E-02 -	8.3E-02	0	2	0.0	0.64
8.3E-02 -	1.2E-01	0	2	0.0	0.64
1.2E-01 -	1.8E-01	5	7	1.60	2.24
1.8E-01 -	2.6E-01	14	21	4.49	6.73
2.6E-01 -	3.8E-01	32	53	10.26	16.99
3.8E-01 -	5.6E-01	58	111	18.59	35.58
5.6E-01 -	8.3E-01	71	182	22.76	58.33
8.3E-01 -	1.2E 00	82	264	26.28	84.62

HISTOGRAM FOR COLUMN 4 (TI PCT)

```
      1.5E-01 XX

      2.0E-01 XXXX

      3.0E-01 XXXXXXXXXX

      5.0E-01 XXXXXXXXXXXXXXXXXX

      7.0E-01 XXXXXXXXXXXXXXXXXXXXXX

      1.0E 00 XXXXXXXXXXXXXXXXXXXXXXXXX
```

N	L	H	R	I	G	ANALYTICAL VALUES
0	0	0	0	0	48	264
0.0	0.0			0.0	15.38	

MAXIMUM = 1.00000E 00

MINIMUM = 1.00000E-02

GEOMETRIC MEAN = 5.79182E-01

GEOMETRIC DEVIATION = 1.80834E 00

Explanation

Semiquantitative spectrographic analyses by the U.S. Geological Survey are reported as geometric midpoints (1, 0.7, 0.5, 0.3, 0.2, 0.15, 0.1, etc.) of geometric brackets having the boundaries 1.2, 0.83, 0.56, 0.38, 0.26, 0.18, 0.083, etc. The frequency distributions are computed using these brackets as class intervals.

The letter E after a value stands for decimal exponent and is followed by a signed or unsigned, one- or two-digit integer constant. In this case, a value 1.0E-01 means 1.0×10^{-1} or 0.1, a value 1.0E 01 means 1.0×10^{1} or 10.0, a value 1.0E-02 means 1.0×10^{-2} or .01, a value 1.0E 02 means 1.0×10^{2} or 100, etc.

Histograms represent percent frequency distribution where each X equals one percent.

FREQUENCY TABLE FOR COLUMN 5 (MN PPM)

LIMITS LOWER - UPPER		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
8.3E 00 -	1.2E 01	0	0	0.0	0.0
1.2E 01 -	1.8E 01	0	0	0.0	0.0
1.8E 01 -	2.6E 01	0	0	0.0	0.0
2.6E 01 -	3.8E 01	0	0	0.0	0.0
3.8E 01 -	5.6E 01	0	0	0.0	0.0
5.6E 01 -	8.3E 01	0	0	0.0	0.0
8.3E 01 -	1.2E 02	0	0	0.0	0.0
1.2E 02 -	1.8E 02	1	1	0.32	0.32
1.8E 02 -	2.6E 02	4	5	1.28	1.60
2.6E 02 -	3.8E 02	12	17	3.85	5.45
3.8E 02 -	5.6E 02	20	37	6.41	11.86
5.6E 02 -	8.3E 02	66	103	21.15	33.01
8.3E 02 -	1.2E 03	51	154	16.35	49.36
1.2E 03 -	1.8E 03	52	206	16.67	66.03
1.8E 03 -	2.6E 03	61	267	19.55	85.58
2.6E 03 -	3.8E 03	35	302	11.22	96.79
3.8E 03 -	5.6E 03	5	307	1.60	98.40

HISTOGRAM FOR COLUMN 5 (MN PPM)

```
2.0E 02 X
3.0E 02 XXXX
5.0E 02 XXXXXX
7.0E 02 XXXXXXXXXXXXXXXXXXXX
1.0E 03 XXXXXXXXXXXXXXXX
1.5E 03 XXXXXXXXXXXXXXXXX
2.0E 03 XXXXXXXXXXXXXXXXXXXX
3.0E 03 XXXXXXXXXXX
5.0E 03 XX
```

N	L	H	B	T	G	ANALYTICAL VALUES
0	0	0	0	0	5	307
0.0	0.0			0.0	1.60	

MAXIMUM = 5.00000E 03

MINIMUM = 1.50000E 02

GEOMETRIC MEAN = 1.17553E 03

GEOMETRIC DEVIATION = 1.94149E 00

Explanation

Semiquantitative spectrographic analyses by the U.S. Geological Survey are reported as geometric midpoints (1, 0.7, 0.5, 0.3, 0.2, 0.15, 0.1, etc.) of geometric brackets having the boundaries 1.2, 0.83, 0.56, 0.38, 0.26, 0.18, 0.083, etc. The frequency distributions are computed using these brackets as class intervals.

The letter E after a value stands for decimal exponent and is followed by a signed or unsigned, one- or two-digit integer constant. In this case, a value 1.0E-01 means 1.0×10^{-1} or 0.1, a value 1.0E 01 means 1.0×10^{1} or 10.0, a value 1.0E-02 means 1.0×10^{-2} or .01, a value 1.0E 02 means 1.0×10^{2} or 100, etc.

Histograms represent percent frequency distribution where each X equals one percent.

FREQUENCY TABLE FOR COLUMN 6 (AG PPM)

LIMITS LOWER - UPPER		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
3.8E-01 -	5.6E-01	10	10	3.21	3.21
5.6E-01 -	8.3E-01	5	15	1.60	4.81
8.3E-01 -	1.2E 00	0	15	0.0	4.81
1.2E 00 -	1.8E 00	0	15	0.0	4.81
1.8E 00 -	2.6E 00	0	15	0.0	4.81
2.6E 00 -	3.8E 00	2	17	0.64	5.45

HISTOGRAM FOR COLUMN 6 (AG PPM)

```
5.0E-01 XXX

7.0E-01 XX

1.0E 00

1.5E 00

2.0E 00

3.0E 00 X
```

N	L	H	B	T	G	ANALYTICAL VALUES
256	39	0	0	0	0	17
82.05	12.50			0.0	0.0	

MAXIMUM = 3.00000E 00

MINIMUM = 5.00000E-01

GEOMETRIC MEAN = 6.81548E-01

GEOMETRIC DEVIATION = 1.78347E 00

Explanation

Semiquantitative spectrographic analyses by the U.S. Geological Survey are reported as geometric midpoints (1, 0.7, 0.5, 0.3, 0.2, 0.15, 0.1, etc.) of geometric brackets having the boundaries 1.2, 0.83, 0.56, 0.38, 0.26, 0.18, 0.083, etc. The frequency distributions are computed using these brackets as class intervals.

The letter E after a value stands for decimal exponent and is followed by a signed or unsigned, one- or two-digit integer constant. In this case, a value 1.0E-01 means 1.0 X 10^{-1} or 0.1, a value 1.0E 01 means 1.0 X 10^{1} or 10.0, a value 1.0E-02 means 1.0 X 10^{-2} or .01, a value 1.0E 02 means 1.0 X 10^{2} or 100, etc.

Histograms represent percent frequency distribution where each X equals one percent.

FREQUENCY TABLE FOR COLUMN 7 (AS PPM)

LIMITS LOWER - UPPER		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
1.8E 02 -	2.6E 02	0	0	0.0	0.0
2.6E 02 -	3.8E 02	1	1	0.32	0.32
3.8E 02 -	5.6E 02	1	2	0.32	0.64
5.6E 02 -	8.3E 02	0	2	0.0	0.64
8.3E 02 -	1.2E 03	2	4	0.64	1.28
1.2E 03 -	1.8E 03	1	5	0.32	1.60
1.8E 03 -	2.6E 03	1	6	0.32	1.92

HISTOGRAM FOR COLUMN 7 (AS PPM)

1.0E 03 X

1.5E 03

2.0E 03

N	L	H	B	T	G	ANALYTICAL VALUES
282	24	0	0	0	0	6
90.38	7.69			0.0	0.0	

MAXIMUM = 2.00000E 03

MINIMUM = 3.00000E 02

GEOMETRIC MEAN = 8.75384E 02

GEOMETRIC DEVIATION = 2.01924E 00

Explanation

Semiquantitative spectrographic analyses by the U.S. Geological Survey are reported as geometric midpoints (1, 0.7, 0.5, 0.3, 0.2, 0.15, 0.1, etc.) of geometric brackets having the boundaries 1.2, 0.83, 0.56, 0.38, 0.26, 0.18, 0.083, etc. The frequency distributions are computed using these brackets as class intervals.

The letter E after a value stands for decimal exponent and is followed by a signed or unsigned, one- or two-digit integer constant. In this case, a value 1.0E-01 means 1.0×10^{-1} or 0.1, a value 1.0E 01 means 1.0×10^{1} or 10.0, a value 1.0E-02 means 1.0×10^{-2} or .01, a value 1.0E 02 means 1.0×10^{2} or 100, etc.

Histograms represent percent frequency distribution where each X equals one percent.

FREQU Y TABLE FOR COLUMN 9 (B PPM)

LIMITS LOWER - UPPER		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
8.3E 00 -	1.2E 01	20	20	6.41	6.41
1.2E 01 -	1.8E 01	27	47	8.65	15.06
1.8E 01 -	2.6E 01	31	78	9.94	25.00
2.6E 01 -	3.8E 01	63	141	20.19	45.19
3.8E 01 -	5.6E 01	35	176	11.22	56.41
5.6E 01 -	8.3E 01	30	206	9.62	66.03
8.3E 01 -	1.2E 02	9	215	2.88	68.91
1.2E 02 -	1.8E 02	5	220	1.60	70.51
1.8E 02 -	2.6E 02	6	226	1.92	72.44
2.6E 02 -	3.8E 02	16	242	5.13	77.56
3.8E 02 -	5.6E 02	15	257	4.81	82.37
5.6E 02 -	8.3E 02	19	276	6.09	88.46
8.3E 02 -	1.2E 03	11	287	3.53	91.99
1.2E 03 -	1.8E 03	7	294	2.24	94.23
1.8E 03 -	2.6E 03	3	297	0.96	95.19

HISTOGRAM FOR COLUMN 9 (B PPM)

```
      1.0E 01 XXXXXX
      1.5E 01 XXXXXXXXX
      2.0E 01 XXXXXXXXXX
      3.0E 01 XXXXXXXXXXXXXXXXXXXX
      5.0E 01 XXXXXXXXXXX
      7.0E 01 XXXXXXXXXX
      1.0E 02 XXX
      1.5E 02 XX
      2.0E 02 XX
      3.0E 02 XXXXX
      5.0E 02 XXXXX
      7.0E 02 XXXXXX
      1.0E 03 XXXX
      1.5E 03 XX
      2.0E 03 X
```

N	L	H	R	T	G	ANALYTICAL VALUES
2	13	0	0	0	0	297
0.64	4.17			0.0	0.0	

MAXIMUM = 2.00000E 03

GEOMETRIC MEAN = 6.67922E 01

GEOMETRIC DEVIATION = 4.24035E 00

Explanation

Semiquantitative spectrographic analyses by the U.S. Geological Survey are reported as geometric midpoints (1, 0.7, 0.5, 0.3, 0.2, 0.15, 0.1, etc.) of geometric brackets having the boundaries 1.2, 0.83, 0.56, 0.38, 0.26, 0.18, 0.083, etc. The frequency distributions are computed using these brackets as class intervals.

The letter E after a value stands for decimal exponent and is followed by a signed or unsigned, one- or two-digit integer constant. In this case, a value 1.0E-01 means 1.0×10^{-1} or 0.1, a value 1.0E 01 means 1.0×10^{1} or 10.0, a value 1.0E-02 means 1.0×10^{-2} or .01, a value 1.0E 02 means 1.0×10^{2} or 100, etc.

Histograms represent percent frequency distribution where each X equals one percent.

FREQUENCY TABLE FOR COLUMN 10 (BA PPM)

LIMITS LOWER - UPPER		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
3.8E 00 -	5.6E 00	0	0	0.0	0.0
5.6E 00 -	8.3E 00	0	0	0.0	0.0
8.3E 00 -	1.2E 01	0	0	0.0	0.0
1.2E 01 -	1.8E 01	0	0	0.0	0.0
1.8E 01 -	2.6E 01	0	0	0.0	0.0
2.6E 01 -	3.8E 01	0	0	0.0	0.0
3.8E 01 -	5.6E 01	0	0	0.0	0.0
5.6E 01 -	8.3E 01	1	1	0.32	0.32
8.3E 01 -	1.2E 02	0	1	0.0	0.32
1.2E 02 -	1.8E 02	5	6	1.60	1.92
1.8E 02 -	2.6E 02	3	9	0.96	2.88
2.6E 02 -	3.8E 02	16	25	5.13	8.01
3.8E 02 -	5.6E 02	21	46	6.73	14.74
5.6E 02 -	8.3E 02	98	144	31.41	46.15
8.3E 02 -	1.2E 03	63	207	20.19	66.35
1.2E 03 -	1.8E 03	70	277	22.44	88.78
1.8E 03 -	2.6E 03	11	288	3.53	92.31
2.6E 03 -	3.8E 03	11	299	3.53	95.83
3.8E 03 -	5.6E 03	12	311	3.85	99.68

HISTOGRAM FOR COLUMN 10 (BA PPM)

```
1.5E 02 XX
2.0E 02 X
3.0E 02 XXXXX
5.0E 02 XXXXXXX
7.0E 02 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
1.0E 03 XXXXXXXXXXXXXXXXXXX
1.5E 03 XXXXXXXXXXXXXXXXXXXXX
2.0E 03 XXXX
3.0E 03 XXXX
5.0E 03 XXXX
```

N	L	H	B	T	G	ANALYTICAL VALUES
0	0	0	0	0	1	311
0.0	0.0			0.0	0.32	

MAXIMUM = 5.00000E 03

MINIMUM = 7.00000E 01

GEOMETRIC MEAN = 9.42593E 02

GEOMETRIC DEVIATION = 1.95408E 00

Explanation

Semiquantitative spectrographic analyses by the U.S. Geological Survey are reported as geometric midpoints (1, 0.7, 0.5, 0.3, 0.2, 0.15, 0.1, etc.) of geometric brackets having the boundaries 1.2, 0.83, 0.56, 0.38, 0.26, 0.18, 0.083, etc. The frequency distributions are computed using these brackets as class intervals.

The letter E after a value stands for decimal exponent and is followed by a signed or unsigned, one- or two-digit integer constant. In this case, a value 1.0E-01 means 1.0 X 10^{-1} or 0.1, a value 1.0E 01 means 1.0 X 10^{1} or 10.0, a value 1.0E-02 means 1.0 X 10^{-2} or .01, a value 1.0E 02 means 1.0 X 10^{2} or 100, etc.

Histograms represent percent frequency distribution where each X equals one percent.

FREQUENCY TABLE FOR COLUMN 11 (BE PPM)

LIMITS LOWER - UPPER		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
8.3E-01 -	1.2E 00	45	45	14.42	14.42
1.2E 00 -	1.8E 00	47	92	15.06	29.49
1.8E 00 -	2.6E 00	22	114	7.05	36.54
2.6E 00 -	3.8E 00	27	141	8.65	45.19
3.8E 00 -	5.6E 00	6	147	1.92	47.12
5.6E 00 -	8.3E 00	6	153	1.92	49.04
8.3E 00 -	1.2E 01	2	155	0.64	49.68
1.2E 01 -	1.8E 01	3	158	0.96	50.64

HISTOGRAM FOR COLUMN 11 (BE PPM)

```
1.0E 00 XXXXXXXXXXXXXX

1.5E 00 XXXXXXXXXXXXXXX

2.0E 00 XXXXXXX

3.0E 00 XXXXXXXXX

5.0E 00 XX

7.0E 00 XX

1.0E 01 X

1.5E 01 X
```

N	L	H	B	T	G	ANALYTICAL VALUES
65	89	0	0	0	0	158
20.83	28.53			0.0	0.0	

MAXIMUM = 1.50000E 01

MINIMUM = 1.00000E 00

GEOMETRIC MEAN = 1.85974E 00

GEOMETRIC DEVIATION = 1.86443E 00

Explanation

Semiquantitative spectrographic analyses by the U.S. Geological Survey are reported as geometric midpoints (1, 0.7, 0.5, 0.3, 0.2, 0.15, 0.1, etc.) of geometric brackets having the boundaries 1.2, 0.83, 0.56, 0.38, 0.26, 0.18, 0.083, etc. The frequency distributions are computed using these brackets as class intervals.

The letter E after a value stands for decimal exponent and is followed by a signed or unsigned, one- or two-digit integer constant. In this case, a value 1.0E-01 means 1.0×10^{-1} or 0.1, a value 1.0E 01 means 1.0×10^{1} or 10.0, a value 1.0E-02 means 1.0×10^{-2} or .01, a value 1.0E 02 means 1.0×10^{2} or 100, etc.

Histograms represent percent frequency distribution where each X equals one percent.

FREQUENCY TABLE FOR COLUMN 12 (BI PPM)

LIMITS		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
LOWER	UPPER				
8.3E 00 -	1.2E 01	1	1	0.32	0.32
1.2E 01 -	1.8E 01	0	1	0.0	0.32
1.8E 01 -	2.6E 01	1	2	0.32	0.64

HISTOGRAM FOR COLUMN 12 (BI PPM)

N	L	H	B	T	G	ANALYTICAL VALUES
288	22	0	0	0	0	2
92.31	7.05			0.0	0.0	

MAXIMUM = 2.00000E 01

MINIMUM = 1.00000E 01

GEOMETRIC MEAN = 1.41421E 01

GEOMETRIC DEVIATION = 1.63253E 00

Explanation

Semiquantitative spectrographic analyses by the U.S. Geological Survey are reported as geometric midpoints (1, 0.7, 0.5, 0.3, 0.2, 0.15, 0.1, etc.) of geometric brackets having the boundaries 1.2, 0.83, 0.56, 0.38, 0.26, 0.18, 0.083, etc. The frequency distributions are computed using these brackets as class intervals.

The letter E after a value stands for decimal exponent and is followed by a signed or unsigned, one- or two-digit integer constant. In this case, a value 1.0E-01 means 1.0×10^{-1} or 0.1, a value 1.0E 01 means 1.0×10^{1} or 10.0, a value 1.0E-02 means 1.0×10^{-2} or .01, a value 1.0E 02 means 1.0×10^{2} or 100, etc.

Histograms represent percent frequency distribution where each X equals one percent.

FREQUENCY TABLE FOR COLUMN 13 (CO PPM)

LIMITS		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
LOWER	- UPPER				
3.8E 00 -	5.6E 00	7	7	2.24	2.24
5.6E 00 -	8.3E 00	6	13	1.92	4.17
8.3E 00 -	1.2E 01	25	38	8.01	12.18
1.2E 01 -	1.8E 01	63	101	20.19	32.37
1.8E 01 -	2.6E 01	54	155	17.31	49.68
2.6E 01 -	3.8E 01	21	176	6.73	56.41
3.8E 01 -	5.6E 01	30	206	9.62	66.03
5.6E 01 -	8.3E 01	79	285	25.32	91.35
8.3E 01 -	1.2E 02	19	304	6.09	97.44
1.2E 02 -	1.8E 02	1	305	0.32	97.76

HISTOGRAM FOR COLUMN 13 (CO PPM)

```
      5.0E 00 XX
      7.0E 00 XX
      1.0E 01 XXXXXXXX
      1.5E 01 XXXXXXXXXXXXXXXXXXXX
      2.0E 01 XXXXXXXXXXXXXXXX
      3.0E 01 XXXXXXX
      5.0E 01 XXXXXXXXXX
      7.0E 01 XXXXXXXXXXXXXXXXXXXXXXXX
      1.0E 02 XXXXXX
      1.5E 02
```

N	L	H	B	T	G	ANALYTICAL VALUES
2	5	0	0	0	0	305
0.64	1.60			0.0	0.0	

MAXIMUM = 1.50000E 02

MINIMUM = 5.00000E 00

GEOMETRIC MEAN = 2.92626E 01

GEOMETRIC DEVIATION = 2.24646E 00

Explanation

Semiquantitative spectrographic analyses by the U.S. Geological Survey are reported as geometric midpoints (1, 0.7, 0.5, 0.3, 0.2, 0.15, 0.1, etc.) of geometric brackets having the boundaries 1.2, 0.83, 0.56, 0.38, 0.26, 0.18, 0.083, etc. The frequency distributions are computed using these brackets as class intervals.

The letter E after a value stands for decimal exponent and is followed by a signed or unsigned, one- or two-digit integer constant. In this case, a value 1.0E-01 means 1.0×10^{-1} or 0.1, a value 1.0E 01 means 1.0×10^{1} or 10.0, a value 1.0E-02 means 1.0×10^{-2} or .01, a value 1.0E 02 means 1.0×10^{2} or 100, etc.

Histograms represent percent frequency distribution where each X equals one percent.

FREQUENCY TABLE FOR COLUMN 14 (CR PPM)

LIMITS LOWER - UPPER		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
3.8E 00 -	5.6E 00	0	0	0.0	0.0
5.6E 00 -	8.3E 00	2	2	0.64	0.64
8.3E 00 -	1.2E 01	0	2	0.0	0.64
1.2E 01 -	1.8E 01	2	4	0.64	1.28
1.8E 01 -	2.6E 01	1	5	0.32	1.60
2.6E 01 -	3.8E 01	12	17	3.85	5.45
3.8E 01 -	5.6E 01	17	34	5.45	10.90
5.6E 01 -	8.3E 01	39	73	12.50	23.40
8.3E 01 -	1.2E 02	44	117	14.10	37.50
1.2E 02 -	1.8E 02	60	177	19.23	56.73
1.8E 02 -	2.6E 02	30	207	9.62	66.35
2.6E 02 -	3.8E 02	42	249	13.46	79.81
3.8E 02 -	5.6E 02	16	265	5.13	84.94
5.6E 02 -	8.3E 02	36	301	11.54	96.47
8.3E 02 -	1.2E 03	2	303	0.64	97.12
1.2E 03 -	1.8E 03	4	307	1.28	98.40
1.8E 03 -	2.6E 03	1	308	0.32	98.72
2.6E 03 -	3.8E 03	3	311	0.96	99.68
3.8E 03 -	5.6E 03	1	312	0.32	100.00

Explanation

Semiquantitative spectrographic analyses by the U.S. Geological Survey are reported as geometric midpoints (1, 0.7, 0.5, 0.3, 0.2, 0.15, 0.1, etc.) of geometric brackets having the boundaries 1.2, 0.83, 0.56, 0.38, 0.26, 0.18, 0.083, etc. The frequency distributions are computed using these brackets as class intervals.

The letter E after a value stands for decimal exponent and is followed by a signed or unsigned, one- or two-digit integer constant. In this case, a value 1.0E-01 means 1.0 X 10^{-1} or 0.1, a value 1.0E 01 means 1.0 X 10^{1} or 10.0, a value 1.0E-02 means 1.0 X 10^{-2} or .01, a value 1.0E 02 means 1.0 X 10^{2} or 100, etc.

Histograms represent percent frequency distribution where each X equals one percent.

HISTOGRAM FOR COLUMN 14 (CR PPM)

```
7.0E 00 X
1.0E 01
1.5E 01 X
2.0E 01
3.0E 01 XXXX
5.0E 01 XXXXX
7.0E 01 XXXXXXXXXXXX
1.0E 02 XXXXXXXXXXXXX
1.5E 02 XXXXXXXXXXXXXXXXXX
2.0E 02 XXXXXXXXXX
3.0E 02 XXXXXXXXXXXX
5.0E 02 XXXXX
7.0E 02 XXXXXXXXXXX
1.0E 03 X
1.5E 03 X
2.0E 03
```

N	L	H	R	T	G	ANALYTICAL VALUES
0	0	0	0	0	0	312
0.0	0.0			0.0	0.0	

MAXIMUM = 5.00000E 03

MINIMUM = 7.00000E 00

GEOMETRIC MEAN = 1.71728E 02

GEOMETRIC DEVIATION = 2.73650E 00

FREQUENCY TABLE FOR COLUMN 15 (CU PPM)

LIMITS LOWER - UPPER		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
3.8E 00 -	5.6E 00	4	4	1.28	1.28
5.6E 00 -	8.3E 00	1	5	0.32	1.60
8.3E 00 -	1.2E 01	3	8	0.96	2.56
1.2E 01 -	1.8E 01	22	30	7.05	9.62
1.8E 01 -	2.6E 01	37	67	11.86	21.47
2.6E 01 -	3.8E 01	36	103	11.54	33.01
3.8E 01 -	5.6E 01	35	138	11.22	44.23
5.6E 01 -	8.3E 01	75	213	24.04	68.27
8.3E 01 -	1.2E 02	48	261	15.38	83.65
1.2E 02 -	1.8E 02	30	291	9.62	93.27
1.8E 02 -	2.6E 02	3	294	0.96	94.23
2.6E 02 -	3.8E 02	8	302	2.56	96.79

HISTOGRAM FOR COLUMN 15 (CU PPM)

```
5.0E 00 X
7.0E 00
1.0E 01 X
1.5E 01 XXXXXXX
2.0E 01 XXXXXXXXXXXX
3.0E 01 XXXXXXXXXXXX
5.0E 01 XXXXXXXXXXX
7.0E 01 XXXXXXXXXXXXXXXXXXXXXXXX
1.0E 02 XXXXXXXXXXXXXXX
1.5E 02 XXXXXXXXXX
2.0E 02 X
3.0E 02 XXX
```

N	L	H	R	T	G	ANALYTICAL VALUES
0	10	0	0	0	0	302
0.0	3.21			0.0	0.0	

MAXIMUM = 3.00000E 02

MINIMUM = 5.00000E 00

GEOMETRIC MEAN = 5.25702E 01

GEOMETRIC DEVIATION = 2.27720E 00

Explanation

Semiquantitative spectrographic analyses by the U.S. Geological Survey are reported as geometric midpoints (1, 0.7, 0.5, 0.3, 0.2, 0.15, 0.1, etc.) of geometric brackets having the boundaries 1.2, 0.83, 0.56, 0.38, 0.26, 0.18, 0.083, etc. The frequency distributions are computed using these brackets as class intervals.

The letter E after a value stands for decimal exponent and is followed by a signed or unsigned, one- or two-digit integer constant. In this case, a value 1.0E-01 means 1.0×10^{-1} or 0.1, a value 1.0E 01 means 1.0×10^{1} or 10.0, a value 1.0E-02 means 1.0×10^{-2} or .01, a value 1.0E 02 means 1.0×10^{2} or 100, etc.

Histograms represent percent frequency distribution where each X equals one percent.

FREQUENCY TABLE FOR COLUMN 16 (LA PPM)

LIMITS LOWER - UPPER		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
1.8E 01 -	2.6E 01	89	89	28.53	28.53
2.6E 01 -	3.8E 01	48	137	15.38	43.91
3.8E 01 -	5.6E 01	29	166	9.29	53.21
5.6E 01 -	8.3E 01	28	194	8.97	62.18
8.3E 01 -	1.2E 02	13	207	4.17	66.35
1.2E 02 -	1.8E 02	4	211	1.28	67.63
1.8E 02 -	2.6E 02	2	213	0.64	68.27
2.6E 02 -	3.8E 02	0	213	0.0	68.27
3.8E 02 -	5.6E 02	0	213	0.0	68.27
5.6E 02 -	8.3E 02	1	214	0.32	68.59

HISTOGRAM FOR COLUMN 16 (LA PPM)

```
      2.0E 01 XXXXXXXXXXXXXXXXXXXXXXXXXXXX

      3.0E 01 XXXXXXXXXXXXXX

      5.0E 01 XXXXXXXXX

      7.0E 01 XXXXXXXXX

      1.0E 02 XXXX

      1.5E 02 X

      2.0E 02 X

      3.0E 02

      5.0E 02

      7.0E 02
```

N	L	H	R	T	G	ANALYTICAL VALUES
10	88	0	0	0	0	214
3.71	28.21			0.0	0.0	

MAXIMUM = 7.00000E 02

MINIMUM = 2.00000E 01

GEOMETRIC MEAN = 3.47530E 01

GEOMETRIC DEVIATION = 1.87419E 00

Explanation

Semiquantitative spectrographic analyses by the U.S. Geological Survey are reported as geometric midpoints (1, 0.7, 0.5, 0.3, 0.2, 0.15, 0.1, etc.) of geometric brackets having the boundaries 1.2, 0.83, 0.56, 0.38, 0.26, 0.18, 0.083, etc. The frequency distributions are computed using these brackets as class intervals.

The letter E after a value stands for decimal exponent and is followed by a signed or unsigned, one- or two-digit integer constant. In this case, a value 1.0E-01 means 1.0 X 10^{-1} or 0.1, a value 1.0E 01 means 1.0 X 10^{1} or 10.0, a value 1.0E-02 means 1.0 X 10^{-2} or .01, a value 1.0E 02 means 1.0 X 10^{2} or 100, etc.

Histograms represent percent frequency distribution where each X equals one percent.

FREQUENCY TABLE FOR COLUMN 17 (MO PPM)

LIMITS LOWER - UPPER		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
3.8E 00 -	5.6E 00	1	1	0.32	0.32
5.6E 00 -	8.3E 00	3	4	0.96	1.28
8.3E 00 -	1.2E 01	2	6	0.64	1.92
1.2E 01 -	1.8E 01	2	8	0.64	2.56
1.8E 01 -	2.6E 01	1	9	0.32	2.88
2.6E 01 -	3.8E 01	4	13	1.28	4.17

HISTOGRAM FOR COLUMN 17 (MO PPM)

7.0E 00 X

1.0E 01 X

1.5E 01 X

2.0E 01

3.0E 01 X

N	L	H	B	T	G	ANALYTICAL VALUES
279	20	0	0	0	0	13
89.42	6.41			0.0	0.0	

MAXIMUM = 3.00000E 01

MINIMUM = 5.00000E 00

GEOMETRIC MEAN = 1.37452E 01

GEOMETRIC DEVIATION = 1.92947E 00

Explanation

Semiquantitative spectrographic analyses by the U.S. Geological Survey are reported as geometric midpoints (1, 0.7, 0.5, 0.3, 0.2, 0.15, 0.1, etc.) of geometric brackets having the boundaries 1.2, 0.83, 0.56, 0.38, 0.26, 0.18, 0.083, etc. The frequency distributions are computed using these brackets as class intervals.

The letter E after a value stands for decimal exponent and is followed by a signed or unsigned, one- or two-digit integer constant. In this case, a value 1.0E-01 means 1.0×10^{-1} or 0.1, a value 1.0E 01 means 1.0×10^{1} or 10.0, a value 1.0E-02 means 1.0×10^{-2} or .01, a value 1.0E 02 means 1.0×10^{2} or 100, etc.

Histograms represent percent frequency distribution where each X equals one percent.

FREQUENCY TABLE FOR COLUMN 18 (NB PPM)

LIMITS LOWER - UPPER		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
8.3E 00 -	1.2E 01	79	79	25.32	25.32
1.2E 01 -	1.8E 01	13	92	4.17	29.49
1.8E 01 -	2.6E 01	17	109	5.45	34.94
2.6E 01 -	3.8E 01	16	125	5.13	40.06
3.8E 01 -	5.6E 01	3	128	0.96	41.03

HISTOGRAM FOR COLUMN 18 (NB PPM)

1.0E 01 XXXXXXXXXXXXXXXXXXXXXXXX

1.5E 01 XXXX

2.0E 01 XXXXX

3.0E 01 XXXXX

5.0E 01 X

N	L	H	R	T	G	ANALYTICAL VALUES
2	182	0	0	0	0	128
0.64	58.33			0.0	0.0	

MAXIMUM = 5.00000E 01

MINIMUM = 1.00000E 01

GEOMETRIC MEAN = 1.36105E 01

GEOMETRIC DEVIATION = 1.56162E 00

Explanation

Semiquantitative spectrographic analyses by the U.S. Geological Survey are reported as geometric midpoints (1, 0.7, 0.5, 0.3, 0.2, 0.15, 0.1, etc.) of geometric brackets having the boundaries 1.2, 0.83, 0.56, 0.38, 0.26, 0.18, 0.083, etc. The frequency distributions are computed using these brackets as class intervals.

The letter E after a value stands for decimal exponent and is followed by a signed or unsigned, one- or two-digit integer constant. In this case, a value 1.0E-01 means 1.0×10^{-1} or 0.1, a value 1.0E 01 means 1.0×10^{1} or 10.0, a value 1.0E-02 means 1.0×10^{-2} or .01, a value 1.0E 02 means 1.0×10^{2} or 100, etc.

Histograms represent percent frequency distribution where each X equals one percent.

FREQUENCY TABLE FOR COLUMN 19 (NI PPM)

LIMITS LOWER - UPPER		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
3.8E 00 -	5.6E 00	1	1	0.32	0.32
5.6E 00 -	8.3E 00	2	3	0.64	0.96
8.3E 00 -	1.2E 01	4	7	1.28	2.24
1.2E 01 -	1.8E 01	9	16	2.88	5.13
1.8E 01 -	2.6E 01	17	33	5.45	10.58
2.6E 01 -	3.8E 01	30	63	9.62	20.19
3.8E 01 -	5.6E 01	41	104	13.14	33.33
5.6E 01 -	8.3E 01	98	202	31.41	64.74
8.3E 01 -	1.2E 02	57	259	18.27	83.01
1.2E 02 -	1.8E 02	40	299	12.82	95.83
1.8E 02 -	2.6E 02	9	308	2.88	98.72
2.6E 02 -	3.8E 02	1	309	0.32	99.04

HISTOGRAM FOR COLUMN 19 (NI PPM)

```
      7.0E 00 X
      1.0E 01 X
      1.5E 01 XXX
      2.0E 01 XXXXX
      3.0E 01 XXXXXXXXXX
      5.0E 01 XXXXXXXXXXXXX
      7.0E 01 XXXXXXXXXXXXXXXXXXXXXXXXXXXXX
      1.0E 02 XXXXXXXXXXXXXXXXX
      1.5E 02 XXXXXXXXXXXXX
      2.0E 02 XXX
      3.0E 02
```

N	L	H	R	T	G	ANALYTICAL VALUES
0	3	0	0	0	0	309
0.0	0.96			0.0	0.0	

MAXIMUM = 3.00000E 02

MINIMUM = 5.00000E 00

GEOMETRIC MEAN = 6.39929E 01

GEOMETRIC DEVIATION = 1.99657E 00

Explanation

Semiquantitative spectrographic analyses by the U.S. Geological Survey are reported as geometric midpoints (1, 0.7, 0.5, 0.3, 0.2, 0.15, 0.1, etc.) of geometric brackets having the boundaries 1.2, 0.83, 0.56, 0.38, 0.26, 0.18, 0.083, etc. The frequency distributions are computed using these brackets as class intervals.

The letter E after a value stands for decimal exponent and is followed by a signed or unsigned, one- or two-digit integer constant. In this case, a value 1.0E-01 means 1.0×10^{-1} or 0.1, a value 1.0E 01 means 1.0×10^{1} or 10.0, a value 1.0E-02 means 1.0×10^{-2} or .01, a value 1.0E 02 means 1.0×10^{2} or 100, etc.

Histograms represent percent frequency distribution where each X equals one percent.

FREQUENCY TABLE FOR COLUMN 20 (PB PPM)

LIMITS LOWER - UPPER		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
8.3E 00 -	1.2E 01	13	13	4.17	4.17
1.2E 01 -	1.8E 01	30	43	9.62	13.78
1.8E 01 -	2.6E 01	36	79	11.54	25.32
2.6E 01 -	3.8E 01	44	123	14.10	39.42
3.8E 01 -	5.6E 01	24	147	7.69	47.12
5.6E 01 -	8.3E 01	58	205	18.59	65.71
8.3E 01 -	1.2E 02	41	246	13.14	78.85
1.2E 02 -	1.8E 02	24	270	7.69	86.54
1.8E 02 -	2.6E 02	7	277	2.24	88.78
2.6E 02 -	3.8E 02	13	290	4.17	92.95
3.8E 02 -	5.6E 02	6	296	1.92	94.87
5.6E 02 -	8.3E 02	4	300	1.28	96.15
8.3E 02 -	1.2E 03	2	302	0.64	96.79

HISTOGRAM FOR COLUMN 20 (PB PPM)

```
      1.0E 01 XXXX
      1.5E 01 XXXXXXXXXX
      2.0E 01 XXXXXXXXXXXX
      3.0E 01 XXXXXXXXXXXXXX
      5.0E 01 XXXXXXXX
      7.0E 01 XXXXXXXXXXXXXXXXXXX
      1.0E 02 XXXXXXXXXXXXX
      1.5E 02 XXXXXXXX
      2.0E 02 XX
      3.0E 02 XXXX
      5.0E 02 XX
      7.0E 02 X
      1.0E 03 X
```

N	L	H	B	T	G	ANALYTICAL VALUES
2	8	0	0	0	0	302
0.64	2.56			0.0	0.0	

MAXIMUM = 1.00000E 03

MINIMUM = 1.00000E 01

GEOMETRIC MEAN = 5.43378E 01

GEOMETRIC DEVIATION = 2.73625E 00

Explanation

Semiquantitative spectrographic analyses by the U.S. Geological Survey are reported as geometric midpoints (1, 0.7, 0.5, 0.3, 0.2, 0.15, 0.1, etc.) of geometric brackets having the boundaries 1.2, 0.83, 0.56, 0.38, 0.26, 0.18, 0.083, etc. The frequency distributions are computed using these brackets as class intervals.

The letter E after a value stands for decimal exponent and is followed by a signed or unsigned, one- or two-digit integer constant. In this case, a value 1.0E-01 means 1.0×10^{-1} or 0.1, a value 1.0E 01 means 1.0×10^{1} or 10.0, a value 1.0E-02 means 1.0×10^{-2} or .01, a value 1.0E 02 means 1.0×10^{2} or 100, etc.

Histograms represent percent frequency distribution where each X equals one percent.

FREQUENCY TABLE FOR COLUMN 21 (SB PPM)

LIMITS LOWER - UPPER	FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
8.3E 01 - 1.2E 02	0	0	0.0	0.0
1.2E 02 - 1.8E 02	1	1	0.32	0.32

HISTOGRAM FOR COLUMN 21 (SB PPM)

N	L	H	R	T	G	ANALYTICAL VALUES
310	1	0	0	0	0	1
99.36	0.32			0.0	0.0	

MAXIMUM = 1.50000E 02

MINIMUM = 1.50000E 02

GEOMETRIC MEAN = 1.50000E 02

GEOMETRIC DEVIATION = 9.99900E 48

Explanation

Semiquantitative spectrographic analyses by the U.S. Geological Survey are reported as geometric midpoints (1, 0.7, 0.5, 0.3, 0.2, 0.15, 0.1, etc.) of geometric brackets having the boundaries 1.2, 0.83, 0.56, 0.38, 0.26, 0.18, 0.083, etc. The frequency distributions are computed using these brackets as class intervals.

The letter E after a value stands for decimal exponent and is followed by a signed or unsigned, one- or two-digit integer constant. In this case, a value 1.0E-01 means 1.0×10^{-1} or 0.1, a value 1.0E 01 means 1.0×10^{1} or 10.0, a value 1.0E-02 means 1.0×10^{-2} or .01, a value 1.0E 02 means 1.0×10^{2} or 100, etc.

Histograms represent percent frequency distribution where each X equals one percent.

FREQUENCY TABLE FOR COLUMN 22 (SC PPM)

LIMITS		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
LOWER	UPPER				
3.8E 00 -	5.6E 00	7	7	2.24	2.24
5.6E 00 -	8.3E 00	19	26	6.09	8.33
8.3E 00 -	1.2E 01	19	45	6.09	14.42
1.2E 01 -	1.8E 01	46	91	14.74	29.17
1.8E 01 -	2.6E 01	30	121	9.62	38.78
2.6E 01 -	3.8E 01	87	208	27.88	66.67
3.8E 01 -	5.6E 01	53	261	16.99	83.65
5.6E 01 -	8.3E 01	28	289	8.97	92.63
8.3E 01 -	1.2E 02	9	298	2.88	95.51

HISTOGRAM FOR COLUMN 22 (SC PPM)

```
5.0E 00 XX
7.0E 00 XXXXXX
1.0E 01 XXXXXX
1.5E 01 XXXXXXXXXXXXXX
2.0E 01 XXXXXXXXXX
3.0E 01 XXXXXXXXXXXXXXXXXXXXXXXXXXXX
5.0E 01 XXXXXXXXXXXXXXXX
7.0E 01 XXXXXXXXX
1.0E 02 XXX
```

N	L	H	B	T	G	ANALYTICAL VALUES
1	9	0	0	0	4	298
0.32	2.88			0.0	1.28	

MAXIMUM = 1.00000E 02

MINIMUM = 5.00000E 00

GEOMETRIC MEAN = 2.59242E 01

GEOMETRIC DEVIATION = 2.05207E 00

Explanation

Semiquantitative spectrographic analyses by the U.S. Geological Survey are reported as geometric midpoints (1, 0.7, 0.5, 0.3, 0.2, 0.15, 0.1, etc.) of geometric brackets having the boundaries 1.2, 0.83, 0.56, 0.38, 0.26, 0.18, 0.083, etc. The frequency distributions are computed using these brackets as class intervals.

The letter E after a value stands for decimal exponent and is followed by a signed or unsigned, one- or two-digit integer constant. In this case, a value 1.0E-01 means 1.0×10^{-1} or 0.1, a value 1.0E 01 means 1.0×10^{1} or 10.0, a value 1.0E-02 means 1.0×10^{-2} or .01, a value 1.0E 02 means 1.0×10^{2} or 100, etc.

Histograms represent percent frequency distribution where each X equals one percent.

FREQUENCY TABLE FOR COLUMN 23 (SN PPM)

LIMITS LOWER - UPPER		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
8.3E 00 -	1.2E 01	5	5	1.60	1.60
1.2E 01 -	1.8E 01	4	9	1.28	2.88
1.8E 01 -	2.6E 01	1	10	0.32	3.21
2.6E 01 -	3.8E 01	1	11	0.32	3.53

HISTOGRAM FOR COLUMN 23 (SN PPM)

1.0E 01 XX

1.5E 01 X

2.0E 01

3.0E 01

N	L	H	B	T	G	ANALYTICAL VALUES
261	40	0	0	0	0	11
83.65	12.82			0.0	0.0	

MAXIMUM = 3.00000E 01

MINIMUM = 1.00000E 01

GEOMETRIC MEAN = 1.36387E 01

GEOMETRIC DEVIATION = 1.43127E 00

Explanation

Semiquantitative spectrographic analyses by the U.S. Geological Survey are reported as geometric midpoints (1, 0.7, 0.5, 0.3, 0.2, 0.15, 0.1, etc.) of geometric brackets having the boundaries 1.2, 0.83, 0.56, 0.38, 0.26, 0.18, 0.083, etc. The frequency distributions are computed using these brackets as class intervals.

The letter E after a value stands for decimal exponent and is followed by a signed or unsigned, one- or two-digit integer constant. In this case, a value 1.0E-01 means 1.0 X 10^{-1} or 0.1, a value 1.0E 01 means 1.0 X 10^{1} or 10.0, a value 1.0E-02 means 1.0 X 10^{-2} or .01, a value 1.0E 02 means 1.0 X 10^{2} or 100, etc.

Histograms represent percent frequency distribution where each X equals one percent.

FREQUENCY TABLE FOR COLUMN 24 (SR PPM)

LIMITS		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
LOWER	- UPPER				
8.3E 01 -	1.2E 02	39	39	12.50	12.50
1.2E 02 -	1.8E 02	32	71	10.26	22.76
1.8E 02 -	2.6E 02	30	101	9.62	32.37
2.6E 02 -	3.8E 02	71	172	22.76	55.13
3.8E 02 -	5.6E 02	33	205	10.58	65.71
5.6E 02 -	8.3E 02	32	237	10.26	75.96
8.3E 02 -	1.2E 03	24	261	7.69	83.65
1.2E 03 -	1.8E 03	24	285	7.69	91.35
1.8E 03 -	2.6E 03	2	287	0.64	91.99
2.6E 03 -	3.8E 03	3	290	0.96	92.95

HISTOGRAM FOR COLUMN 24 (SR PPM)

```
1.0E 02 XXXXXXXXXXXX
1.5E 02 XXXXXXXXXX
2.0E 02 XXXXXXXXXX
3.0E 02 XXXXXXXXXXXXXXXXXXXXXXX
5.0E 02 XXXXXXXXXXX
7.0E 02 XXXXXXXXXX
1.0E 03 XXXXXXXX
1.5E 03 XXXXXXXX
2.0E 03 X
3.0E 03 X
```

N	L	H	B	T	G	ANALYTICAL VALUES
2	20	0	0	0	0	290
0.64	6.41			0.0	0.0	

MAXIMUM = 3.00000E 03

MINIMUM = 1.00000E 02

GEOMETRIC MEAN = 3.50325E 02

GEOMETRIC DEVIATION = 2.35625E 00

Explanation

Semiquantitative spectrographic analyses by the U.S. Geological Survey are reported as geometric midpoints (1, 0.7, 0.5, 0.3, 0.2, 0.15, 0.1, etc.) of geometric brackets having the boundaries 1.2, 0.83, 0.56, 0.38, 0.26, 0.18, 0.083, etc. The frequency distributions are computed using these brackets as class intervals.

The letter E after a value stands for decimal exponent and is followed by a signed or unsigned, one- or two-digit integer constant. In this case, a value 1.0E-01 means 1.0×10^{-1} or 0.1, a value 1.0E 01 means 1.0×10^{1} or 10.0, a value 1.0E-02 means 1.0×10^{-2} or .01, a value 1.0E 02 means 1.0×10^{2} or 100, etc.

Histograms represent percent frequency distribution where each X equals one percent.

FREQUENCY TABLE FOR COLUMN 25 (V PPM)

LIMITS LOWER - UPPER		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
8.3E 00 -	1.2E 01	1	1	0.32	0.32
1.2E 01 -	1.8E 01	0	1	0.0	0.32
1.8E 01 -	2.6E 01	0	1	0.0	0.32
2.6E 01 -	3.8E 01	1	2	0.32	0.64
3.8E 01 -	5.6E 01	5	7	1.60	2.24
5.6E 01 -	8.3E 01	10	17	3.21	5.45
8.3E 01 -	1.2E 02	13	30	4.17	9.62
1.2E 02 -	1.8E 02	52	82	16.67	26.28
1.8E 02 -	2.6E 02	61	143	19.55	45.83
2.6E 02 -	3.8E 02	90	233	28.85	74.68
3.8E 02 -	5.6E 02	50	283	16.03	90.71
5.6E 02 -	8.3E 02	24	307	7.69	98.40
8.3E 02 -	1.2E 03	5	312	1.60	100.00

HISTOGRAM FOR COLUMN 25 (V PPM)

```
      5.0E 01 XX
      7.0E 01 XXX
      1.0E 02 XXXX
      1.5E 02 XXXXXXXXXXXXXXXX
      2.0E 02 XXXXXXXXXXXXXXXXXXXX
      3.0E 02 XXXXXXXXXXXXXXXXXXXXXXXXXXXX
      5.0E 02 XXXXXXXXXXXXXXXX
      7.0E 02 XXXXXXXX
      1.0E 03 XX
```

N	L	H	B	T	G	ANALYTICAL VALUES
0	0	0	0	0	0	312
0.0	0.0			0.0	0.0	

MAXIMUM = 1.00000E 03

MINIMUM = 1.00000E 01

GEOMETRIC MEAN = 2.53596E 02

GEOMETRIC DEVIATION = 1.92776E 00

Explanation

Semiquantitative spectrographic analyses by the U.S. Geological Survey are reported as geometric midpoints (1, 0.7, 0.5, 0.3, 0.2, 0.15, 0.1, etc.) of geometric brackets having the boundaries 1.2, 0.83, 0.56, 0.38, 0.26, 0.18, 0.083, etc. The frequency distributions are computed using these brackets as class intervals.

The letter E after a value stands for decimal exponent and is followed by a signed or unsigned, one- or two-digit integer constant. In this case, a value 1.0E-01 means 1.0×10^{-1} or 0.1, a value 1.0E 01 means 1.0×10^{1} or 10.0, a value 1.0E-02 means 1.0×10^{-2} or .01, a value 1.0E 02 means 1.0×10^{2} or 100, etc.

Histograms represent percent frequency distribution where each X equals one percent.

FREQUENCY TABLE FOR COLUMN 26 (W PPM)

LIMITS LOWER - UPPER	FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
3.8E 01 - 5.6E 01	1	1	0.32	0.32

HISTOGRAM FOR COLUMN 26 (W PPM)

N	L	H	R	T	G	ANALYTICAL VALUES
300	11	0	0	0	0	1
96.15	3.53			0.0	0.0	

MAXIMUM = 5.00000E 01

MINIMUM = 5.00000E 01

GEOMETRIC MEAN = 4.99999E 01

GEOMETRIC DEVIATION = 9.99900E 48

Explanation

Semiquantitative spectrographic analyses by the U.S. Geological Survey are reported as geometric midpoints (1, 0.7, 0.5, 0.3, 0.2, 0.15, 0.1, etc.) of geometric brackets having the boundaries 1.2, 0.83, 0.56, 0.38, 0.26, 0.18, 0.083, etc. The frequency distributions are computed using these brackets as class intervals.

The letter E after a value stands for decimal exponent and is followed by a signed or unsigned, one- or two-digit integer constant. In this case, a value 1.0E-01 means 1.0 X 10^{-1} or 0.1, a value 1.0E 01 means 1.0 X 10^{1} or 10.0, a value 1.0E-02 means 1.0 X 10^{-2} or .01, a value 1.0E 02 means 1.0 X 10^{2} or 100, etc.

Histograms represent percent frequency distribution where each X equals one percent.

FREQUENCY TABLE FOR COLUMN 27 (Y PPM)

LIMITS LOWER - UPPER		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
8.3E 00 -	1.2E 01	10	10	3.21	3.21
1.2E 01 -	1.8E 01	39	49	12.50	15.71
1.8E 01 -	2.6E 01	75	124	24.04	39.74
2.6E 01 -	3.8E 01	136	260	43.59	83.33
3.8E 01 -	5.6E 01	36	296	11.54	94.87
5.6E 01 -	8.3E 01	6	302	1.92	96.79
8.3E 01 -	1.2E 02	2	304	0.64	97.44
1.2E 02 -	1.8E 02	2	306	0.64	98.08
1.8E 02 -	2.6E 02	1	307	0.32	98.40

HISTOGRAM FOR COLUMN 27 (Y PPM)

```
1.0E 01 XXX
1.5E 01 XXXXXXXXXXXXX
2.0E 01 XXXXXXXXXXXXXXXXXXXXXXXXX
3.0E 01 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
5.0E 01 XXXXXXXXXXXXX
7.0E 01 XX
1.0E 02 X
1.5E 02 X
2.0E 02
```

N	L	H	B	T	G	ANALYTICAL VALUES
1	4	0	0	0	0	307
0.32	1.28			0.0	0.0	

MAXIMUM = 2.00000E 02

MINIMUM = 1.00000E 01

GEOMETRIC MEAN = 2.65540E 01

GEOMETRIC DEVIATION = 1.58033E 00

Explanation

Semiquantitative spectrographic analyses by the U.S. Geological Survey are reported as geometric midpoints (1, 0.7, 0.5, 0.3, 0.2, 0.15, 0.1, etc.) of geometric brackets having the boundaries 1.2, 0.83, 0.56, 0.38, 0.26, 0.18, 0.083, etc. The frequency distributions are computed using these brackets as class intervals.

The letter E after a value stands for decimal exponent and is followed by a signed or unsigned, one- or two-digit integer constant. In this case, a value 1.0E-01 means 1.0×10^{-1} or 0.1, a value 1.0E 01 means 1.0×10^{1} or 10.0, a value 1.0E-02 means 1.0×10^{-2} or .01, a value 1.0E 02 means 1.0×10^{2} or 100, etc.

Histograms represent percent frequency distribution where each X equals one percent.

FREQUENCY TABLE FOR COLUMN 28 (ZN PPM)

LIMITS LOWER - UPPER		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
1.8E 02 -	2.6E 02	7	7	2.24	2.24
2.6E 02 -	3.8E 02	7	14	2.24	4.49
3.8E 02 -	5.6E 02	4	18	1.28	5.77
5.6E 02 -	8.3E 02	7	25	2.24	8.01
8.3E 02 -	1.2E 03	3	28	0.96	8.97
1.2E 03 -	1.8E 03	6	34	1.92	10.90

HISTOGRAM FOR COLUMN 28 (ZN PPM)

2.0E 02 XX

3.0E 02 XX

5.0E 02 X

7.0E 02 XX

1.0E 03 X

1.5E 03 XX

N	L	H	B	T	G	ANALYTICAL VALUES
204	74	0	0	0	0	34
65.38	23.72			0.0	0.0	

MAXIMUM = 1.50000E 03

MINIMUM = 2.00000E 02

GEOMETRIC MEAN = 5.15471E 02

GEOMETRIC DEVIATION = 2.05637E 00

Explanation

Semiquantitative spectrographic analyses by the U.S. Geological Survey are reported as geometric midpoints (1, 0.7, 0.5, 0.3, 0.2, 0.15, 0.1, etc.) of geometric brackets having the boundaries 1.2, 0.83, 0.56, 0.38, 0.26, 0.18, 0.083, etc. The frequency distributions are computed using these brackets as class intervals.

The letter E after a value stands for decimal exponent and is followed by a signed or unsigned, one- or two-digit integer constant. In this case, a value 1.0E-01 means 1.0×10^{-1} or 0.1, a value 1.0E 01 means 1.0×10^{1} or 10.0, a value 1.0E-02 means 1.0×10^{-2} or .01, a value 1.0E 02 means 1.0×10^{2} or 100, etc.

Histograms represent percent frequency distribution where each X equals one percent.

FREQUENCY TABLE FOR COLUMN 29 (7R PPM)

LIMITS LOWER - UPPER		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
8.3E 00 -	1.2E 01	1	1	0.32	0.32
1.2E 01 -	1.8E 01	1	2	0.32	0.64
1.8E 01 -	2.6E 01	0	2	0.0	0.64
2.6E 01 -	3.8E 01	0	2	0.0	0.64
3.8E 01 -	5.6E 01	5	7	1.60	2.24
5.6E 01 -	8.3E 01	33	40	10.58	12.82
8.3E 01 -	1.2E 02	40	80	12.82	25.64
1.2E 02 -	1.8E 02	64	144	20.51	46.15
1.8E 02 -	2.6E 02	75	219	24.04	70.19
2.6E 02 -	3.8E 02	69	288	22.12	92.31
3.8E 02 -	5.6E 02	13	301	4.17	96.47
5.6E 02 -	8.3E 02	8	309	2.56	99.04
8.3E 02 -	1.2E 03	3	312	0.96	100.00

HISTOGRAM FOR COLUMN 29 (7R PPM)

```
5.0E 01 XX
7.0E 01 XXXXXXXXXXX
1.0E 02 XXXXXXXXXXXXX
1.5E 02 XXXXXXXXXXXXXXXXXXXXX
2.0E 02 XXXXXXXXXXXXXXXXXXXXXXXXX
3.0E 02 XXXXXXXXXXXXXXXXXXXXXX
5.0E 02 XXXX
7.0E 02 XXX
1.0E 03 X
```

N	L	H	R	T	G	ANALYTICAL VALUES
0	0	0	0	0	0	312
0.0	0.0			0.0	0.0	

MAXIMUM = 1.00000E 03

MINIMUM = 1.00000E 01

GEOMETRIC MEAN = 1.76730E 02

GEOMETRIC DEVIATION = 1.88145E 00

Explanation

Semiquantitative spectrographic analyses by the U.S. Geological Survey are reported as geometric midpoints (1, 0.7, 0.5, 0.3, 0.2, 0.15, 0.1, etc.) of geometric brackets having the boundaries 1.2, 0.83, 0.56, 0.38, 0.26, 0.18, 0.083, etc. The frequency distributions are computed using these brackets as class intervals.

The letter E after a value stands for decimal exponent and is followed by a signed or unsigned, one- or two-digit integer constant. In this case, a value 1.0E-01 means 1.0×10^{-1} or 0.1, a value 1.0E 01 means 1.0×10^{1} or 10.0, a value 1.0E-02 means 1.0×10^{-2} or .01, a value 1.0E 02 means 1.0×10^{2} or 100, etc.

Histograms represent percent frequency distribution where each X equals one percent.

IN THE COMPUTATIONS PERFORMED TO PRODUCE THE FOLLOWING TABLE OF GEOMETRIC MEANS AND DEVIATIONS. ALL ELEMENTS ARE IGNORED WHERE ONE OR MORE OF THE UNQUALIFIED DATA VALUES IS LESS THAN THE ANALYTICAL LIMIT OF DETECTION SPECIFIED ON INPUT OR WHERE ANY DATA VALUES ARE QUALIFIED WITH THE G (GREATER THAN) CODE. DATA VALUES QUALIFIED WITH B OR H ARE NOT USED IN THE COMPUTATIONS. WHERE NONE OF THE DATA VALUES FOR AN ELEMENT ARE QUALIFIED THE MEAN AND DEVIATION SHOULD BE THE SAME AS THOSE GIVEN IN THE PRECEDING SECTION. WHERE DATA ARE QUALIFIED WITH THE CODES N, L, OR T, THE ESTIMATES OF GEOMETRIC MEAN AND DEVIATION ARE BASED ON A METHOD BY A. J. COHEN FOR TREATING CENSURED DISTRIBUTIONS. THE APPLICATION OF THIS METHOD TO GEOCHEMICAL PROBLEMS IS DESCRIBED IN USGS PROFESSIONAL PAPER 574-B. THE ESTIMATES ARE UNBIASED IN A STRICT SENSE ONLY WHERE THE DATA ARE DERIVED FROM A LOGNORMAL PARENT POPULATION, BUT EXPERIMENTS HAVE SHOWN THAT LARGE DEPARTURES FROM THIS REQUIREMENT MAY NOT GREATLY INVALIDATE THE RESULTS. ACCEPTANCE AND USE OF THE ESTIMATES, HOWEVER, IS THE RESPONSIBILITY OF THE INDIVIDUAL.

ELEMENT	N	L	H	B	T	G	ANALYTICAL VALUES
FE PCT	0	0	0	0	0	2	310
MG PCT	0	0	0	0	0	0	312
CA PCT	0	0	0	0	0	0	312
TI PCT	0	0	0	0	0	48	264
MN PPM	0	0	0	0	0	5	307
AG PPM	256	39	0	0	0	0	17
AS PPM	282	24	0	0	0	0	6
AU PPM	308	0	0	0	0	0	4
B PPM	2	13	0	0	0	0	297
BA PPM	0	0	0	0	0	1	311
BE PPM	65	89	0	0	0	0	158
BI PPM	288	22	0	0	0	0	2
CO PPM	2	5	0	0	0	0	305
CR PPM	0	0	0	0	0	0	312
CU PPM	0	10	0	0	0	0	302
LA PPM	10	88	0	0	0	0	214
MO PPM	279	20	0	0	0	0	13
NB PPM	2	182	0	0	0	0	128
NI PPM	0	3	0	0	0	0	309
PB PPM	2	8	0	0	0	0	302
SB PPM	310	1	0	0	0	0	1
SC PPM	1	9	0	0	0	4	298
SN PPM	261	40	0	0	0	0	11
SR PPM	2	20	0	0	0	0	290
V PPM	0	0	0	0	0	0	312
W PPM	300	11	0	0	0	0	1
Y PPM	1	4	0	0	0	0	307
ZN PPM	204	74	0	0	0	0	34
ZR PPM	0	0	0	0	0	0	312

ELEMENT	GEOMETRIC MEAN	GEOMETRIC DEVIATION	REMARKS
FE PCT	********	******	2 GREATER THAN VALUES. NO COMPUTATIONS.
MG PCT	2.600111	2.12	312 SAMPLES AND 312 ANALYTICAL VALUES.
CA PCT	2.531237	2.16	312 SAMPLES AND 312 ANALYTICAL VALUES.
TI PCT	********	******	48 GREATER THAN VALUES. NO COMPUTATIONS.
MN PPM	********	******	5 GREATER THAN VALUES. NO COMPUTATIONS.
AG PPM	********	******	295 NOT DETECTED, LESS THAN, OR TRACE VALUES. 17 REPORTED VALUES. NO COMPUTATIONS.
AS PPM	********	******	306 NOT DETECTED, LESS THAN, OR TRACE VALUES. 6 REPORTED VALUES. NO COMPUTATIONS.
AU PPM	********	******	308 NOT DETECTED, LESS THAN, OR TRACE VALUES. 4 REPORTED VALUES. NO COMPUTATIONS.
B PPM	58.314301	4.66	15 NOT DETECTED, LESS THAN, OR TRACE VALUES. 297 REPORTED VALUES.
BA PPM	********	******	1 GREATER THAN VALUES. NO COMPUTATIONS.
BE PPM	0.835077	2.77	154 NOT DETECTED, LESS THAN, OR TRACE VALUES. 158 REPORTED VALUES.
BI PPM	********	******	310 NOT DETECTED, LESS THAN, OR TRACE VALUES. 2 REPORTED VALUES. NO COMPUTATIONS.
CO PPM	27.769058	2.39	7 NOT DETECTED, LESS THAN, OR TRACE VALUES. 305 REPORTED VALUES.
CR PPM	171.727402	2.74	312 SAMPLES AND 312 ANALYTICAL VALUES.
CU PPM	47.874344	2.61	10 NOT DETECTED, LESS THAN, OR TRACE VALUES. 302 REPORTED VALUES.
LA PPM	23.673706	2.24	98 NOT DETECTED, LESS THAN, OR TRACE VALUES. 214 REPORTED VALUES.
MO PPM	********	******	299 NOT DETECTED, LESS THAN, OR TRACE VALUES. 13 REPORTED VALUES. NO COMPUTATIONS.
NB PPM	6.867006	2.09	184 NOT DETECTED, LESS THAN, OR TRACE VALUES. 128 REPORTED VALUES.
NI PPM	62.176743	2.11	3 NOT DETECTED, LESS THAN, OR TRACE VALUES. 309 REPORTED VALUES.
PB PPM	50.430740	2.93	10 NOT DETECTED, LESS THAN, OR TRACE VALUES. 302 REPORTED VALUES.
SB PPM	********	******	311 NOT DETECTED, LESS THAN, OR TRACE VALUES. 1 REPORTED VALUES. NO COMPUTATIONS.
SC PPM	********	******	4 GREATER THAN VALUES. NO COMPUTATIONS.
SN PPM	********	******	299 NOT DETECTED, LESS THAN, OR TRACE VALUES. 11 REPORTED VALUES. NO COMPUTATIONS.

SR	PPM	306.646729	2.62	22	NOT DETECTED, LESS THAN, OR TRACE VALUES.	290	REPORTED VALUES.	
V	PPM	253.595596	1.93	312	SAMPLES AND 312 ANALYTICAL VALUES.			
W	PPM	********	******	311	NOT DETECTED, LESS THAN, OR TRACE VALUES.	1	REPORTED VALUES.	NO COMPUTATIONS.
Y	PPM	25.993057	1.62	5	NOT DETECTED, LESS THAN, OR TRACE VALUES.	307	REPORTED VALUES.	
ZN	PPM	13.125793	8.20	278	NOT DETECTED, LESS THAN, OR TRACE VALUES.	34	REPORTED VALUES.	
ZR	PPM	176.729553	1.88	312	SAMPLES AND 312 ANALYTICAL VALUES.			