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ANALYSES OF ROCK AND STREAM-SEDIMENT SAMPLES FROM THE SUMDUM B-5 QUADRANGLE, ALASKA

By

Allen L. Clark, David A. Brew, Donald A. Grybeck,
and Raymond Wehr

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Geological Survey standards

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INTRODUCTION

Analytical data for 39 rock and 23 stream-sediment samples from the Sumdum B-5 , 1:63,360 scale quadrangle are presented in this report, together with a statistical treatment of the data. The samples were collected in 1969 as part of the Heavy Metals Program of the U.S. Geological Survey.

The most comprehensive discussion of the geology of the study area is a report by A. F. Buddington and Theodore Chapin (1929). Known metalliferous lodes of the area are described and additional references to specific areas are given by Berg and Cobb (1967). Additional data is given in reports by Herbert and Race (1964) and Alaska Department of Mines (1950). Supplemental publications are being prepared on the general geology and mineral occurrences of the study area.

Procedures and treatment of data

Standard procedures were followed in the collection and preparation of samples.

Rock samples are primarily grab samples from mineral occurrences and outcrops. They were chosen for analysis to provide data on background, because they were in the area of mineral occurrences or stream-sediment anomalies, because they were strongly iron stained, or contained visible sulfides.

Stream-sediment samples were generally collected from the active stream channel; where this was not possible, samples were collected from bank or terrace deposits adjacent to the channel.

Rock samples were crushed and pulverized and the minus 80 mesh fraction analyzed. Stream-sediment samples were dried, sieved, and the minus 80 mesh fraction analyzed. The minus 80 mesh fractions of the

samples were analyzed for 30 elements by the six-step semiquantitative spectrographic method and for gold by the atomic absorption method.[1/]

The spectrographic analyses were reported in percentage (pct) or parts per million (ppm) to the nearest number in the series 1.0, 0.7, 0.5, 0.3, 0.2, 0.15, 0.1, etc. The precision of a reported value is approximately plus 100 percent or minus 50 percent. Analyses for gold by the atomic absorption method are accurate to ± 100 percent. Minimum limits of determination for each element are given on page 4 Semiquantitative spectrographic analyses were done by K. J. Curry and atomic absorption analyses were done by R. L. Miller, R. B. Tripp, H. D. King, and A. L. Meier.

Locations of the rock and stream-sediment samples are shown on Plate 1. Rock sample descriptions are given in table 1 and rock sample analyses are tabulated in table 2 and stream-sediment analyses are tabulated in table 3.

The results of the analyses of the rock and stream-sediment analyses have been processed by means of a computer program known as GEOSUM and are presented in tables 2 and 3. The GEOSUM program is designed primarily for summarizing and tabulating geochemical data--especially data from semiquantitative spectrographic analyses (commonly referred to as six-step spectrographic analyses) by the laboratories of the U.S. Geological Survey.

The program output consists of: (a) a tabulation of the data, (b) histograms and cumulative frequency distributions for all elements except tungsten, and (c) a statistical summary which includes geometric means and geometric deviations.

[1/] Analyses for 29 elements by semiquantitative analyses and for gold by atomic absorption are given in the tables. Semiquantitative analyses for gold are omitted.

Table 1.--Description of rock, vein, and altered zone samples from the Sumdum B-5 quadrangle. (All samples are of representative material.) Sample localities are shown by sample number plotted on the accompanying map, Plate 1.

Sample No.[1/]	Lab. No.	Sample Description
1	AKD-773	Quartz vein with sphalerite
1	-774	Quartz vein with sphalerite
1	-775	Iron-stained quartz vein
1	-777	Iron-stained quartz vein
1	-778	Iron-stained quartz vein
1	-779	Silicified pyritic argillite
1	-780	Pyritic quartz vein
1	-781	Pyritic quartz vein
1	-782	Tetrahedrite(?) bearing quartz vein
1	-783	Tetrahedrite(?) bearing quartz vein
2	AMG-746	Muscovite biotite schist
3	-737	Biotite hornblende greenschist
4	-735	Biotite schist
4	-736	Phyllite
5	-733	Alaskite dike
5	-734	Greenschist
6	-741	Aplite dike
6	-742	Greenstone
7	-740	Biotite hornblende greenstone
8	-743	Marble
8	-744	Iron-stained biotite schist
9	-738	Alaskite dike
10	-739	Biotite hornblende greenstone
11	-745	Biotite schist
12	AKD-407	Biotite feldspar hornblende gneiss
13	-404	Biotite chlorite hornblende schist
13	-410	Biotite chlorite hornblende schist
14	AMG-696	Biotite schist
15	-697	Biotite schist
15	-698	Quartz vein
15	-699	Biotite schist
15	-700	Pyritic quartz vein
16	-701	Micaceous quartz schist
17	-702	Biotite garnet hornblende gneiss
17	-703	Greenschist
18	-704	Iron-stained micaceous quartz schist
18	-705	Iron-stained quartz vein
19	-706	Graywacke
19	-707	Greenstone

[1/] All number 1 samples were collected from the K&D Mine.

Explanation of Tables 2 and 3

Analytical results from rock and stream-sediment samples are given in Tables 2 and 3 as analytical values such as 7.0000 ppm, 10.0000 percent, etc., or as qualified values expressed as a letter. These letter codes are N = not detected, L = less than specified limit of detection, G = greater than value shown, B = no data, H = interference. The term T = trace, but does not occur in these data. Note that the right-most zero digits for each analytical value may or may not be significant. The specified limits of detection are as follows:

Specified limits of detection

FE PCT	MG PCT	CA PCT	TI PCT	MN PPM	AG PPM
0.05000	0.02000	0.05000	0.00200	20.00000	0.10000
AS PPM	AU PPM	B PPM	BA PPM	BE PPM	BI PPM
0.20000	0.02000	10.00000	20.00000	1.00000	10.00000
CO PPM	CR PPM	CU PPM	LA PPM	MO PPM	NB PPM
5.00000	5.00000	2.00000	20.00000	2.00000	10.00000
NI PPM	PB PPM	SB PPM	SC PPM	SN PPM	SR PPM
2.00000	10.00000	0.50000	5.00000	10.00000	50.00000
V PPM	W PPM	Y PPM	ZN PPM	ZR PPM	
5.00000	50.00000	5.00000	25.00000	10.00000	

Semiquantitative spectrographic analyses by the U.S. Geological Survey are reported as geometric midpoints (1.0, 0.7, 0.5, 0.3, 0.2, 0.15, 0.1, etc.) of geometric backets having the boundaries 1.2, 0.83, 0.56, 0.38, 0.26, 0.18, 0.12, 0.083, etc. The frequency distributions and histograms are on logarithmic scales and are computed using these brackets as class intervals, for example:

Reported value (ppm)	Limits	
1.0	.83	1.2
1.5	1.2	1.8
2.0	1.8	2.6
3.0	2.6	3.8
5.0	3.8	5.6
7.0	5.6	8.3
10 0	8.3	12.0

On the histograms decimal numbers are shown as powers of 10, for example:

7.0E-01 means 7.0×10^{-1} or 0.7

7.0E 00 means 7.0×10^{0} or 7.0

7.0E 01 means 7.0×10^{1} or 70.0

7.0E 02 means 7.0×10^{2} or 700.0

7.0E 03 means 7.0×10^{3} or 7,000.0

The histograms are constructed of X's, each of which represents 1 percent of the total number (309) of samples.

The histograms and the statistics given below them are derived only from data values within the ranges of analytical determination ("analytical values"). The histograms are, therefore, incomplete, and the statistics are biased if data values qualified with N, L, C, T, or H codes are present. (See the histogram and statistics below it for tin, which are calculated from only one sample.) Statistical estimates that are unbiased in this regard are given at the end of Table 1. The geometric means is the antilogarithm of the arithmetic mean of the logs of the analyses and 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. The geometric deviation is the antilogarithm of the standard deviation of the logs of the analyses. See USGS Professional Paper 574-B for further discussion and USGS Bulletin 1147E, p. 20-23, for further discussion and explanation of geometric deviation.

In the computations performed to produce the statistical summary at the end of Tables 2 and 3, 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 censored distributions. The application of this method of 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.

Selected References

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Herbert, C. F., and Race, W. H., 1964, Geochemical investigations of selected areas in southeastern Alaska, 1964: Alaska Div. Mines and Minerals Geochem. Rept. 1, 27 p.

Miesch, A. T., 1963, Distribution of elements in Colorado Plateau uranium deposits--A preliminary report: U.S. Geol. Survey Bull. 1147-E, 57 p.

_____1967, Methods of computation for estimating geochemical abundance: U.S. Geol. Survey Prof. Paper 574-B, 15 p.

TABLE 2. SUMDUM B-5 ROCK SAMPLES

MAP NUMBER	SAMPLE	FE PCT	MG PCT	CA PCT	TI PCT	MN PPM	AG PPM	AS PPM	AU PPM	B PPM	BA PPM
1	AKD773	20.0000G	1.5000	0.7000	0.1500	300.0000	3.0000	0.0 N	0.0 N	20.0000	0.0 L
1	AKD774	15.0000	10.0000	5.0000	0.7000	1500.0000	0.0 L	0.0 N	0.0 N	0.0 L	0.0 L
1	AKD775	1.0000	0.0700	1.5000	0.2000	150.0000	0.7000	1500.0000	0.0 N	0.0 N	150.0000
1	AKD777	0.5000	0.0200	0.0 L	0.0150	20.0000	7.0000	0.0 L	0.0 N	0.0 N	100.0000
1	AKD778	0.5000	0.3000	1.0000	0.0300	150.0000	3.0000	200.0000	0.0 N	0.0 N	100.0000
1	AKD779	5.0000	2.0000	7.0000	0.7000	1000.0000	0.0 L	0.0 L	0.0 N	10.0000	700.0000
1	AKD780	2.0000	0.7000	0.7000	0.3000	150.0000	2.0000	0.0 L	0.0 N	0.0 L	1000.0000
1	AKD781	0.7000	0.2000	1.0000	0.0500	200.0000	3.0000	500.0000	0.0 N	0.0 N	150.0000
1	AKD782	10.0000	0.0700	5.0000	0.0050	300.0000	5.0000	0.0 N	0.0 N	10.0000	0.0 L
1	AKD783	3.0000	0.0700	7.0000	0.0070	500.0000	2.0000	0.0 L	0.0 N	10.0000	0.0 L
2	AMG746	5.0000	1.5000	0.1000	0.3000	100.0000	0.0 N	0.0 N	0.0 N	0.0 L	700.0000
3	AMG737	7.0000	7.0000	7.0000	0.5000	1500.0000	0.0 N	0.0 N	0.0 N	0.0 L	150.0000
4	AMG735	5.0000	3.0000	3.0000	0.5000	1000.0000	0.0 N	0.0 N	0.0 N	15.0000	0.0 L
4	AMG736	3.0000	0.5000	0.1500	0.3000	70.0000	0.0 L	0.0 N	0.0 N	0.0 L	300.0000
5	AMG733	0.3000	0.1500	0.7000	0.0300	300.0000	0.0 N	0.0 N	0.0 N	0.0 N	1500.0000
5	AMG734	10.0000	7.0000	7.0000	1.0000	1000.0000	0.0 N	0.0 N	0.0 N	10.0000	1000.0000
6	AMG741	0.7000	0.3000	0.7000	0.0700	200.0000	0.0 N	0.0 N	0.0 N	0.0 N	700.0000
6	AMG742	3.0000	1.5000	1.0000	0.5000	500.0000	0.0 N	0.0 N	0.0 N	0.0 N	0.0 L
7	AMG740	15.0000	3.0000	5.0000	0.7000	1500.0000	0.0 N	0.0 N	0.0 N	10.0000	0.0 L
8	AMG743	2.0000	0.7000	2.0000	0.3000	700.0000	0.0 N	0.0 N	0.0 N	10.0000	1500.0000
8	AMG744	0.3000	0.0300	1.0000	0.0300	70.0000	0.0 N	0.0 N	0.0 N	0.0 L	1000.0000
9	AMG738	1.0000	0.3000	0.5000	0.2000	300.0000	0.0 N	0.0 N	0.0 N	15.0000	1500.0000
10	AMG739	15.0000	7.0000	7.0000	0.5000	1500.0000	0.0 N	0.0 N	0.0 N	0.0 L	300.0000
11	AMG745	3.0000	1.5000	5.0000	0.2000	700.0000	0.0 N	0.0 N	0.0 N	0.0 N	300.0000
12	AKD407	15.0000	5.0000	3.0000	1.0000	1000.0000	0.0 N	0.0 N	0.0 N	0.0 L	200.0000
13	AKD404	20.0000	7.0000	7.0000	1.0000G	1500.0000	0.0 N	0.0 N	0.0 N	0.0 L	300.0000
13	AKD410	5.0000	0.1500	0.5000	0.7000	70.0000	1.0000	0.0 N	0.0 N	10.0000	0.0 L
14	AMG696	2.0000	0.7000	0.5000	0.5000	100.0000	0.0 L	0.0 N	0.0 N	15.0000	5000.0000
15	AMG697	1.5000	0.7000	1.0000	0.1500	700.0000	0.0 N	0.0 N	0.0 N	0.0 L	1500.0000
15	AMG698	5.0000	1.0000	0.5000	0.5000	200.0000	0.0 L	0.0 N	0.0 N	15.0000	1500.0000
15	AMG699	0.7000	0.1500	0.0 L	0.0300	50.0000	0.0 N	0.0 N	0.0 N	0.0 L	300.0000
15	AMG700	20.0000G	0.0700	0.0700	0.0 L	70.0000	3.0000	0.0 N	0.0 N	0.0 N	0.0 L
16	AMG701	3.0000	1.0000	0.7000	0.5000	500.0000	0.0 L	0.0 N	0.0 N	0.0 L	200.0000
17	AMG702	3.0000	0.7000	0.3000	0.5000	150.0000	0.0 L	0.0 N	0.0 N	15.0000	2000.0000
17	AMG703	15.0000	7.0000	5.0000	1.0000	1500.0000	0.0 N	0.0 N	0.0 N	0.0 L	500.0000
18	AMG704	3.0000	1.5000	1.0000	0.5000	300.0000	0.0 N	0.0 N	0.0 N	15.0000	500.0000
18	AMG705	1.5000	0.7000	7.0000	0.0300	1000.0000	0.0 L	0.0 N	0.0 N	0.0 N	100.0000
19	AMG706	7.0000	1.5000	1.0000	0.5000	1500.0000	0.0 N	0.0 N	0.0 N	30.0000	300.0000
19	AMG707	5.0000	1.5000	1.5000	0.7000	300.0000	0.0 N	0.0 N	0.0 N	50.0000	500.0000

SUMDUM B-5 ROCK SAMPLES

	SAMPLE	BE PPM	BI PPM	CD PPM	CO PPM	CR PPM	CU PPM	LA PPM	MO PPM	NB PPM	NI PPM
1	AKD773	0.0 N	0.0 N	0.0 N	200.0000	200.0000	500.0000	0.0 N	7.0000	0.0 L	3000.0000
1	AKD774	0.0 N	0.0 N	0.0 N	70.0000	1500.0000	70.0000	0.0 N	0.0 L	10.0000	700.0000
1	AKD775	0.0 N	0.0 N	0.0 N	0.0 L	30.0000	5.0000	0.0 N	0.0 N	0.0 L	20.0000
1	AKD777	0.0 N	0.0 N	0.0 N	0.0 N	10.0000	0.0 L	0.0 N	0.0 N	0.0 L	10.0000
1	AKD778	0.0 N	0.0 N	0.0 N	0.0 N	10.0000	0.0 L	0.0 N	0.0 N	0.0 L	10.0000
1	AKD779	0.0 L	0.0 N	0.0 N	20.0000	200.0000	30.0000	0.0 N	5.0000	0.0 L	100.0000
1	AKD780	1.0000	0.0 N	0.0 N	0.0 L	50.0000	30.0000	0.0 N	0.0 L	0.0 L	50.0000
1	AKD781	0.0 N	0.0 N	0.0 N	0.0 L	0.0 L	0.0 L	0.0 N	0.0 N	0.0 L	20.0000
1	AKD782	0.0 N	0.0 N	0.0 N	0.0 N	10.0000	500.0000	0.0 N	0.0 L	10.0000	0.0 L
1	AKD783	0.0 N	0.0 N	0.0 N	0.0 N	0.0 L	30.0000	0.0 N	0.0 N	0.0 L	0.0 L
2	AMG746	0.0 N	0.0 N	0.0 N	15.0000	15.0000	30.0000	0.0 N	0.0 L	0.0 L	15.0000
3	AMG737	0.0 N	0.0 N	0.0 N	50.0000	700.0000	0.0 L	0.0 N	0.0 N	15.0000	150.0000
4	AMG735	0.0 N	0.0 N	0.0 N	30.0000	70.0000	20.0000	0.0 N	7.0000	15.0000	150.0000
4	AMG736	0.0 L	0.0 N	0.0 N	20.0000	70.0000	70.0000	0.0 N	5.0000	10.0000	100.0000
5	AMG733	0.0 L	0.0 N	0.0 N	0.0 N	0.0 L	0.0 L	0.0 N	0.0 N	0.0 L	0.0 N
5	AMG734	1.0000	0.0 N	0.0 N	70.0000	700.0000	100.0000	0.0 N	0.0 L	15.0000	200.0000
6	AMG741	0.0 L	0.0 N	0.0 N	0.0 N	15.0000	0.0 L	0.0 N	0.0 N	0.0 L	5.0000
6	AMG742	0.0 L	0.0 N	0.0 N	10.0000	50.0000	30.0000	0.0 N	0.0 N	0.0 L	15.0000
7	AMG740	0.0 L	0.0 N	0.0 N	30.0000	15.0000	50.0000	0.0 N	0.0 L	0.0 L	20.0000
8	AMG743	2.0000	0.0 N	0.0 N	5.0000	15.0000	70.0000	0.0 N	5.0000	10.0000	20.0000
8	AMG744	2.0000	0.0 N	0.0 N	0.0 N	0.0 L	0.0 L	0.0 N	0.0 N	0.0 L	0.0 L
9	AMG738	1.5000	0.0 N	0.0 N	0.0 N	0.0 L	7.0000	0.0 L	0.0 N	10.0000	0.0 L
10	AMG739	1.0000	0.0 N	0.0 N	70.0000	300.0000	30.0000	20.0000	0.0 L	10.0000	100.0000
11	AMG745	0.0 N	0.0 N	0.0 N	10.0000	50.0000	0.0 L	0.0 N	0.0 L	0.0 L	70.0000
12	AKD407	0.0 L	0.0 N	0.0 N	30.0000	300.0000	0.0 L	0.0 L	0.0 N	10.0000	100.0000
13	AKD404	0.0 N	0.0 N	0.0 N	70.0000	1000.0000	10.0000	0.0 N	0.0 L	10.0000	150.0000
13	AKD410	0.0 N	0.0 N	0.0 N	10.0000	150.0000	70.0000	0.0 N	15.0000	10.0000	100.0000
14	AMG696	1.0000	0.0 N	30.0000	15.0000	50.0000	50.0000	0.0 L	70.0000	0.0 L	150.0000
15	AMG697	1.0000	0.0 N	0.0 N	0.0 L	10.0000	0.0 L	0.0 N	0.0 N	0.0 L	0.0 L
15	AMG698	1.5000	0.0 N	0.0 N	5.0000	50.0000	70.0000	0.0 N	5.0000	15.0000	30.0000
15	AMG699	0.0 N	0.0 N	0.0 N	0.0 N	10.0000	150.0000	0.0 N	0.0 N	0.0 L	0.0 L
15	AMG700	0.0 N	0.0 N	0.0 N	300.0000	10.0000	3000.0000	0.0 N	7.0000	10.0000	100.0000
16	AMG701	0.0 L	0.0 N	0.0 N	20.0000	30.0000	150.0000	0.0 L	0.0 L	10.0000	30.0000
17	AMG702	1.5000	0.0 N	0.0 N	5.0000	30.0000	70.0000	0.0 N	5.0000	0.0 L	70.0000
17	AMG703	0.0 L	0.0 N	0.0 N	100.0000	700.0000	0.0 L	0.0 L	0.0 L	10.0000	500.0000
18	AMG704	1.5000	0.0 N	0.0 N	20.0000	50.0000	0.0 L	20.0000	0.0 N	10.0000	30.0000
18	AMG705	0.0 N	0.0 N	0.0 N	0.0 L	15.0000	70.0000	0.0 N	0.0 N	0.0 L	20.0000
19	AMG706	1.0000	0.0 N	0.0 N	20.0000	50.0000	15.0000	0.0 L	0.0 L	10.0000	30.0000
19	AMG707	1.5000	0.0 N	0.0 N	20.0000	70.0000	15.0000	20.0000	0.0 L	10.0000	30.0000

SUMDUM B-5 ROCK SAMPLES

	SAMPLE	PB PPM	SB PPM	SC PPM	SN PPM	SR PPM	V PPM	W PPM	Y PPM	ZN PPM	ZR PPM
1	AKD773	10.0000	0.0 N	0.0 L	0.0 N	0.0 L	50.0000	0.0 N	30.0000	700.0000	20.0000
1	AKD774	0.0 N	0.0 N	15.0000	0.0 N	300.0000	20.0000	0.0 N	0.0 L	700.0000	100.0000
1	AKD775	10.0000	0.0 L	0.0 N	0.0 N	0.0 L	50.0000	0.0 N	15.0000	0.0 N	20.0000
1	AKD777	500.0000	0.0 N	0.0 N	0.0 N	0.0 L	20.0000	0.0 N	0.0 L	0.0 N	0.0 L
1	AKD778	100.0000	0.0 N	0.0 N	0.0 N	0.0 L	20.0000	0.0 N	0.0 L	1000.0000	0.0 L
1	AKD779	0.0 L	0.0 N	20.0000	0.0 N	500.0000	300.0000	0.0 N	0.0 L	0.0 L	100.0000
1	AKD780	100.0000	100.0000	0.0 L	0.0 N	0.0 L	300.0000	0.0 N	15.0000	700.0000	50.0000
1	AKD781	150.0000	150.0000	0.0 N	0.0 N	0.0 L	30.0000	0.0 N	0.0 L	1000.0000	0.0 L
1	AKD782	1000.0000	10001.0000G	0.0 N	0.0 N	200.0000	15.0000	0.0 N	0.0 L	300.0000	0.0 L
1	AKD783	100.0000	10001.0000G	0.0 N	0.0 N	300.0000	15.0000	0.0 N	0.0 L	0.0 L	0.0 L
2	AMG746	10.0000	0.0 N	15.0000	0.0 N	100.0000	150.0000	0.0 N	10.0000	0.0 N	70.0000
3	AMG737	50.0000	0.0 N	30.0000	0.0 N	500.0000	200.0000	0.0 N	15.0000	0.0 L	50.0000
4	AMG735	0.0 L	0.0 N	15.0000	0.0 N	300.0000	300.0000	0.0 N	30.0000	500.0000	100.0000
4	AMG736	0.0 N	0.0 N	15.0000	0.0 N	100.0000	300.0000	0.0 N	15.0000	1000.0000	70.0000
5	AMG733	20.0000	0.0 N	0.0 N	0.0 N	700.0000	30.0000	0.0 N	10.0000	0.0 N	20.0000
5	AMG734	10.0000	0.0 N	30.0000	0.0 N	200.0000	300.0000	0.0 N	30.0000	200.0000	100.0000
6	AMG741	30.0000	0.0 N	0.0 L	0.0 N	700.0000	30.0000	0.0 N	10.0000	0.0 N	50.0000
6	AMG742	0.0 N	0.0 N	0.0 L	0.0 N	0.0 L	70.0000	0.0 N	10.0000	0.0 N	70.0000
7	AMG740	10.0000	0.0 N	50.0000	0.0 N	150.0000	300.0000	0.0 N	30.0000	0.0 L	70.0000
8	AMG743	50.0000	0.0 N	10.0000	0.0 N	300.0000	150.0000	0.0 N	10.0000	300.0000	70.0000
8	AMG744	20.0000	0.0 N	0.0 N	0.0 N	500.0000	15.0000	0.0 N	0.0 L	0.0 N	50.0000
9	AMG738	70.0000	0.0 N	0.0 L	0.0 N	1000.0000	30.0000	0.0 N	10.0000	0.0 L	100.0000
10	AMG739	20.0000	0.0 N	30.0000	0.0 N	500.0000	200.0000	0.0 N	15.0000	0.0 L	70.0000
11	AMG745	0.0 N	0.0 N	7.0000	0.0 N	200.0000	100.0000	0.0 N	15.0000	0.0 L	70.0000
12	AKD407	0.0 L	0.0 N	30.0000	0.0 N	300.0000	200.0000	0.0 N	15.0000	0.0 L	200.0000
13	AKD404	0.0 N	0.0 N	30.0000	0.0 N	300.0000	300.0000	0.0 N	15.0000	0.0 L	150.0000
13	AKD410	0.0 N	0.0 N	15.0000	0.0 N	150.0000	300.0000	0.0 N	15.0000	700.0000	100.0000
14	AMG696	0.0 N	0.0 N	10.0000	0.0 N	150.0000	1000.0000	0.0 N	10.0000	7000.0000	70.0000
15	AMG697	150.0000	0.0 N	5.0000	0.0 N	1000.0000	50.0000	0.0 N	0.0 L	0.0 N	70.0000
15	AMG698	15.0000	0.0 N	15.0000	0.0 N	200.0000	200.0000	0.0 N	10.0000	0.0 N	70.0000
15	AMG699	0.0 N	0.0 N	0.0 N	0.0 N	100.0000	30.0000	0.0 N	0.0 L	0.0 N	20.0000
15	AMG700	0.0 L	0.0 N	0.0 N	0.0 N	0.0 L	10.0000	0.0 N	0.0 L	0.0 L	20.0000
16	AMG701	10.0000	0.0 N	10.0000	0.0 N	150.0000	100.0000	0.0 N	0.0 L	0.0 L	70.0000
17	AMG702	0.0 N	0.0 N	15.0000	0.0 N	100.0000	200.0000	0.0 N	15.0000	700.0000	70.0000
17	AMG703	0.0 L	0.0 N	30.0000	0.0 N	300.0000	300.0000	0.0 N	20.0000	0.0 L	70.0000
18	AMG704	15.0000	0.0 N	15.0000	0.0 N	200.0000	150.0000	0.0 N	15.0000	0.0 L	70.0000
18	AMG705	0.0 N	0.0 N	0.0 L	0.0 N	300.0000	15.0000	0.0 N	15.0000	0.0 L	20.0000
19	AMG706	20.0000	0.0 N	20.0000	0.0 N	300.0000	300.0000	0.0 N	0.0 L	0.0 L	100.0000
19	AMG707	20.0000	0.0 N	20.0000	0.0 N	500.0000	300.0000	0.0 N	20.0000	0.0 N	150.0000

SUMDUM B-5 ROCK SAMPLES

	SAMPLE	AU PPM
1	AKD773	0.0200L
1	AKD774	0.0200L
1	AKD775	0.5000
1	AKD777	0.5000
1	AKD778	0.5000
1	AKD779	0.0200L
1	AKD780	0.2000
1	AKD781	0.7000
1	AKD782	0.3000
1	AKD783	0.1000
2	AMG746	0.0200L
3	AMG737	0.0200L
4	AMG735	0.0200L
4	AMG736	0.0200L
5	AMG733	0.0200L
5	AMG734	0.0200L
6	AMG741	0.0200L
6	AMG742	0.0200L
7	AMG740	0.0200L
8	AMG743	0.0200L
8	AMG744	0.0200L
9	AMG738	0.0200L
10	AMG739	0.0200L
11	AMG745	0.0200L
12	AKD407	0.0200L
13	AKD404	0.0200L
13	AKD410	0.0200L
14	AMG696	0.0200L
15	AMG697	0.0200L
15	AMG698	0.0200L
15	AMG699	0.0200L
15	AMG700	0.0200L
16	AMG701	0.0200L
17	AMG702	0.0200L
17	AMG703	0.0200L
18	AMG704	0.0200L
18	AMG705	0.0200L
4	AMG706	0.0200L
19	AMG707	0.0200L

FREQUENCY TABLE FOR COLUMN 1 (FE 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	2	2	5.13	5.13
3.8E-01 -	5.6E-01	2	4	5.13	10.26
5.6E-01 -	8.3E-01	3	7	7.69	17.95
8.3E-01 -	1.2E 00	2	9	5.13	23.08
1.2E 00 -	1.8E 00	2	11	5.13	28.21
1.8E 00 -	2.6E 00	3	14	7.69	35.90
2.6E 00 -	3.8E 00	7	21	17.95	53.85
3.8E 00 -	5.6E 00	6	27	15.38	69.23
5.6E 00 -	8.3E 00	2	29	5.13	74.36
8.3E 00 -	1.2E 01	2	31	5.13	79.49
1.2E 01 -	1.8E 01	5	36	12.82	92.31
1.8E 01 -	2.6E 01	1	37	2.56	94.87

HISTOGRAM FOR COLUMN 1 (FE PCT)

```
3.0E-01 XXXXX

5.0E-01 XXXXX

7.0E-01 XXXXXXXX

1.0E 00 XXXXX

1.5E 00 XXXXX

2.0E 00 XXXXXXXX

3.0E 00 XXXXXXXXXXXXXXXXX

5.0E 00 XXXXXXXXXXXXXX

7.0E 00 XXXXX

1.0E 01 XXXXX

1.5E 01 XXXXXXXXXXXX

2.0E 01 XXX
```

N	L	H	B	T	G	ANALYTICAL VALUES
0	0	0	0	0	2	37
0.0	0.0			0.0	5.13	

MAXIMUM = 2.00000E 01

MINIMUM = 3.00000E-01

GEOMETRIC MEAN = 2.98038E 00

GEOMETRIC DEVIATION = 3.23788E 00

FREQUENCY TABLE FOR COLUMN 2 (MG PCT)

LIMITS LOWER	- UPPER	FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
1.8E-02 -	2.6E-02	1	1	2.56	2.56
2.6E-02 -	3.8E-02	1	2	2.56	5.13
3.8E-02 -	5.6E-02	0	2	0.0	5.13
5.6E-02 -	8.3E-02	4	6	10.26	15.38
8.3E-02 -	1.2E-01	0	6	0.0	15.38
1.2E-01 -	1.8E-01	3	9	7.69	23.08
1.8E-01 -	2.6E-01	1	10	2.56	25.64
2.6E-01 -	3.8E-01	3	13	7.69	33.33
3.8E-01 -	5.6E-01	1	14	2.56	35.90
5.6E-01 -	8.3E-01	6	20	15.38	51.28
8.3E-01 -	1.2E 00	2	22	5.13	56.41
1.2E 00 -	1.8E 00	7	29	17.95	74.36
1.8E 00 -	2.6E 00	1	30	2.56	76.92
2.6E 00 -	3.8E 00	2	32	5.13	82.05
3.8E 00 -	5.6E 00	1	33	2.56	84.62
5.6E 00 -	8.3E 00	5	38	12.82	97.44
8.3E 00 -	1.2E 01	1	39	2.56	100.00

HISTOGRAM FOR COLUMN 2 (MG PCT)

```
2.0E-02 XXX
3.0E-02 XXX
5.0E-02
7.0E-02 XXXXXXXXXX
1.0E-01
1.5E-01 XXXXXXXX
2.0E-01 XXX
3.0E-01 XXXXXXXX
5.0E-01 XXX
7.0E-01 XXXXXXXXXXXXXXX
1.0E 00 XXXXX
1.5E 00 XXXXXXXXXXXXXXXXXX
2.0E 00 XXX
3.0E 00 XXXXX
5.0E 00 XXX
7.0E 00 XXXXXXXXXXXXX
1.0E 01 XXX
```

N L H B T G ANALYTICAL VALUES

0	0	0	0	0	0	39
0.0	0.0			0.0	0.0	

MAXIMUM = 1.00000E 01

MINIMUM = 2.00000E-02

GEOMETRIC MEAN = 7.27057E-01

GEOMETRIC DEVIATION = 5.13734E 00

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	1	1	2.56	2.56
8.3E-02 -	1.2E-01	1	2	2.56	5.13
1.2E-01 -	1.8E-01	1	3	2.56	7.69
1.8E-01 -	2.6E-01	0	3	0.0	7.69
2.6E-01 -	3.8E-01	1	4	2.56	10.26
3.8E-01 -	5.6E-01	4	8	10.26	20.51
5.6E-01 -	8.3E-01	5	13	12.82	33.33
8.3E-01 -	1.2E 00	7	20	17.95	51.28
1.2E 00 -	1.8E 00	2	22	5.13	56.41
1.8E 00 -	2.6E 00	1	23	2.56	58.97
2.6E 00 -	3.8E 00	2	25	5.13	64.10
3.8E 00 -	5.6E 00	5	30	12.82	76.92
5.6E 00 -	8.3E 00	7	37	17.95	94.87

HISTOGRAM FOR COLUMN 3 (CA PCT)

```
7.0E-02 XXX

1.0E-01 XXX

1.5E-01 XXX

2.0E-01

3.0E-01 XXX

5.0E-01 XXXXXXXXXX

7.0E-01 XXXXXXXXXXXXX

1.0E 00 XXXXXXXXXXXXXXXXXX

1.5E 00 XXXXX

2.0E 00 XXX

3.0E 00 XXXXX

5.0E 00 XXXXXXXXXXXXX

7.0E 00 XXXXXXXXXXXXXXXXXX
```

N	L	H	B	T	G	ANALYTICAL VALUES
0	2	0	0	0	0	37
0.0	5.13			0.0	0.0	

MAXIMUM = 7.00000E 00

MINIMUM = 7.00000E-02

GEOMETRIC MEAN = 1.41145E 00

GEOMETRIC DEVIATION = 3.56871E 00

FREQUENCY TABLE FOR COLUMN 4 (TI PCT)

LIMITS LOWER	- UPPER	FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
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	1	1	2.56	2.56
5.6E-03 -	8.3E-03	1	2	2.56	5.13
8.3E-03 -	1.2E-02	0	2	0.0	5.13
1.2E-02 -	1.8E-02	1	3	2.56	7.69
1.8E-02 -	2.6E-02	0	3	0.0	7.69
2.6E-02 -	3.8E-02	5	8	12.82	20.51
3.8E-02 -	5.6E-02	1	9	2.56	23.08
5.6E-02 -	8.3E-02	1	10	2.56	25.64
8.3E-02 -	1.2E-01	0	10	0.0	25.64
1.2E-01 -	1.8E-01	2	12	5.13	30.77
1.8E-01 -	2.6E-01	3	15	7.69	38.46
2.6E-01 -	3.8E-01	4	19	10.26	48.72
3.8E-01 -	5.6E-01	10	29	25.64	74.36
5.6E-01 -	8.3E-01	5	34	12.82	87.18
8.3E-01 -	1.2E 00	3	37	7.69	94.87

HISTOGRAM FOR COLUMN 4 (TI PCT)

```
5.0E-03 XXX

7.0E-03 XXX

1.0E-02

1.5E-02 XXX

2.0E-02

3.0E-02 XXXXXXXXXXXX

5.0E-02 XXX

7.0E-02 XXX

1.0E-01

1.5E-01 XXXXX

2.0E-01 XXXXXXXX

3.0E-01 XXXXXXXXXX

5.0E-01 XXXXXXXXXXXXXXXXXXXXXXXX

7.0E-01 XXXXXXXXXXXX

1.0E 00 XXXXXXXX
```

N	L	H	B	T	G	ANALYTICAL VALUES
0	1	0	0	0	1	37
0.0	2.56			0.0	2.56	

MAXIMUM = 1.00000E 00

MINIMUM = 5.00000E-03

GEOMETRIC MEAN = 1.98646E-01

GEOMETRIC DEVIATION = 4.33353E 00

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	1	1	2.56	2.56
2.6E 01 -	3.8E 01	0	1	0.0	2.56
3.8E 01 -	5.6E 01	1	2	2.56	5.13
5.6E 01 -	8.3E 01	4	6	10.26	15.38
8.3E 01 -	1.2E 02	2	8	5.13	20.51
1.2E 02 -	1.8E 02	4	12	10.26	30.77
1.8E 02 -	2.6E 02	3	15	7.69	38.46
2.6E 02 -	3.8E 02	6	21	15.38	53.85
3.8E 02 -	5.6E 02	3	24	7.69	61.54
5.6E 02 -	8.3E 02	3	27	7.69	69.23
8.3E 02 -	1.2E 03	5	32	12.82	82.05
1.2E 03 -	1.8E 03	7	39	17.95	100.00

HISTOGRAM FOR COLUMN 5 (MN PPM)

```
2.0E 01 XXX

3.0E 01

5.0E 01 XXX

7.0E 01 XXXXXXXXXX

1.0E 02 XXXXX

1.5E 02 XXXXXXXXXX

2.0E 02 XXXXXXXX

3.0E 02 XXXXXXXXXXXXXXX

5.0E 02 XXXXXXXX

7.0E 02 XXXXXXXX

1.0E 03 XXXXXXXXXXXXX

1.5E 03 XXXXXXXXXXXXXXXXXX
```

N	L	H	B	T	G	ANALYTICAL VALUES
0	0	0	0	0	0	39
0.0	0.0			0.0	0.0	

MAXIMUM = 1.50000E 03

MINIMUM = 2.00000E 01

GEOMETRIC MEAN = 3.39749E 02

GEOMETRIC DEVIATION = 3.20540E 00

FREQUENCY TABLE FOR COLUMN 6 (AG PPM)

LIMITS LOWER	- UPPER	FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
3.8E-01 -	5.6E-01	0	0	0.0	0.0
5.6E-01 -	8.3E-01	1	1	2.56	2.56
8.3E-01 -	1.2E 00	1	2	2.56	5.13
1.2E 00 -	1.8E 00	0	2	0.0	5.13
1.8E 00 -	2.6E 00	2	4	5.13	10.26
2.6E 00 -	3.8E 00	4	8	10.26	20.51
3.8E 00 -	5.6E 00	1	9	2.56	23.08
5.6E 00 -	8.3E 00	1	10	2.56	25.64

HISTOGRAM FOR COLUMN 6 (AG PPM)

```
7.0E-01 XXX

1.0E 00 XXX

1.5E 00

2.0E 00 XXXXX

3.0E 00 XXXXXXXXXX

5.0E 00 XXX

7.0E 00 XXX
```

N	L	H	B	T	G	ANALYTICAL VALUES
21	8	0	0	0	0	10
53.85	20.51			0.0	0.0	

MAXIMUM = 7.00000E 00

MINIMUM = 7.00000E-01

GEOMETRIC MEAN = 2.45454E 00

GEOMETRIC DEVIATION = 1.98486E 00

FREQUENCY TABLE FOR COLUMN 7 (AS PPM)

LIMITS LOWER - UPPER		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
1.8E 02 -	2.6E 02	1	1	2.56	2.56
2.6E 02 -	3.8E 02	0	1	0.0	2.56
3.8E 02 -	5.6E 02	1	2	2.56	5.13
5.6E 02 -	8.3E 02	0	2	0.0	5.13
8.3E 02 -	1.2E 03	0	2	0.0	5.13
1.2E 03 -	1.8E 03	1	3	2.56	7.69

HISTOGRAM FOR COLUMN 7 (AS PPM)

```
2.0E 02 XXX

3.0E 02

5.0E 02 XXX

7.0E 02

1.0E 03

1.5E 03 XXX
```

N	L	H	B	T	G	ANALYTICAL VALUES
32	4	0	0	0	0	3
82.05	10.26			0.0	0.0	

MAXIMUM = 1.50000E 03

MINIMUM = 2.00000E 02

GEOMETRIC MEAN = 5.31328E 02

GEOMETRIC DEVIATION = 2.74238E 00

FREQUENCY TABLE FOR COLUMN 8 (AU PPM)

LIMITS LOWER - UPPER		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM	ANALYTICAL VALUES
N	L	H	B	T	G	
39	0	0	0	0	0	0
*****	0.0			0.0	0.0	

MAXIMUM = -9.99900E 48

MINIMUM = 9.99900E 48

GEOMETRIC MEAN = 9.99900E 48

GEOMETRIC DEVIATION = 9.99900E 48

FREQUENCY TABLE FOR COLUMN 9 (B PPM)

LIMITS LOWER	- UPPER	FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
8.3E 00 -	1.2E 01	7	7	17.95	17.95
1.2E 01 -	1.8E 01	6	13	15.38	33.33
1.8E 01 -	2.6E 01	1	14	2.56	35.90
2.6E 01 -	3.8E 01	1	15	2.56	38.46
3.8E 01 -	5.6E 01	1	16	2.56	41.03

HISTOGRAM FOR COLUMN 9 (B PPM)

```
1.0E 01 XXXXXXXXXXXXXXXXXX

1.5E 01 XXXXXXXXXXXXXXX

2.0E 01 XXX

3.0E 01 XXX

5.0E 01 XXX
```

N	L	H	B	T	G	ANALYTICAL VALUES
10	13	0	0	0	0	16
25.64	33.33			0.0	0.0	

MAXIMUM = 5.00000E 01

MINIMUM = 1.00000E 01

GEOMETRIC MEAN = 1.43996E 01

GEOMETRIC DEVIATION = 1.57984E 00

FREQUENCY TABLE FOR COLUMN 10 (BA PPM)

LIMITS LOWER	- UPPER	FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
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	3	3	7.69	7.69
1.2E 02 -	1.8E 02	3	6	7.69	15.38
1.8E 02 -	2.6E 02	2	8	5.13	20.51
2.6E 02 -	3.8E 02	6	14	15.38	35.90
3.8E 02 -	5.6E 02	3	17	7.69	43.59
5.6E 02 -	8.3E 02	3	20	7.69	51.28
8.3E 02 -	1.2E 03	3	23	7.69	58.97
1.2E 03 -	1.8E 03	5	28	12.82	71.79
1.8E 03 -	2.6E 03	1	29	2.56	74.36
2.6E 03 -	3.8E 03	0	29	0.0	74.36
3.8E 03 -	5.6E 03	1	30	2.56	76.92

HISTOGRAM FOR COLUMN 10 (BA PPM)

```
1.0E 02 XXXXXXXX

1.5E 02 XXXXXXXX

2.0E 02 XXXXX

3.0E 02 XXXXXXXXXXXXXXX

5.0E 02 XXXXXXXX

7.0E 02 XXXXXXXX

1.0E 03 XXXXXXXX

1.5E 03 XXXXXXXXXXXXX

2.0E 03 XXX

3.0E 03

5.0E 03 XXX
```

N	L	H	B	T	G	ANALYTICAL VALUES
0	9	0	0	0	0	30
0.0	23.08			0.0	0.0	

MAXIMUM = 5.00000E 03

MINIMUM = 1.00000E 02

GEOMETRIC MEAN = 4.82522E 02

GEOMETRIC DEVIATION = 2.78246E 00

FREQUENCY TABLE FOR COLUMN 11 (BE PPM)

LIMITS LOWER	- UPPER	FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
8.3E-01 -	1.2E 00	6	6	15.38	15.38
1.2E 00 -	1.8E 00	5	11	12.82	28.21
1.8E 00 -	2.6E 00	2	13	5.13	33.33

HISTOGRAM FOR COLUMN 11 (BE PPM)

```
1.0E 00 XXXXXXXXXXXXXX

1.5E 00 XXXXXXXXXXXX

2.0E 00 XXXXX
```

N	L	H	B	T	G	ANALYTICAL VALUES
17	9	0	0	0	0	13
43.59	23.08			0.0	0.0	

MAXIMUM = 2.00000E 00

MINIMUM = 1.00000E 00

GEOMETRIC MEAN = 1.30029E 00

GEOMETRIC DEVIATION = 1.31233E 00

FREQUENCY TABLE FOR COLUMN 12 (BI PPM)

LIMITS LOWER - UPPER		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM	ANALYTICAL VALUES
N	L	H	B	T	G	
39	0	0	0	0	0	0
*****	0.0			0.0	0.0	

MAXIMUM = -9.99900E 48

MINIMUM = 9.99900E 48

GEOMETRIC MEAN = 9.99900E 48

GEOMETRIC DEVIATION = 9.99900E 48

FREQUENCY TABLE FOR COLUMN 13 (CD PPM)

LIMITS LOWER - UPPER	FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
1.8E 01 - 2.6E 01	0	0	0.0	0.0
2.6E 01 - 3.8E 01	1	1	2.56	2.56

HISTOGRAM FOR COLUMN 13 (CD PPM)

3.0E 01 XXX

N	L	H	B	T	G	ANALYTICAL VALUES
38	0	0	0	0	0	1
97.44	0.0			0.0	0.0	

MAXIMUM = 3.00000E 01

MINIMUM = 3.00000E 01

GEOMETRIC MEAN = 3.00000E 01

GEOMETRIC DEVIATION = 9.99900E 48

FREQUENCY TABLE FOR COLUMN 14 (CO PPM)

LIMITS LOWER	- UPPER	FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
3.8E 00 -	5.6E 00	3	3	7.69	7.69
5.6E 00 -	8.3E 00	0	3	0.0	7.69
8.3E 00 -	1.2E 01	3	6	7.69	15.38
1.2E 01 -	1.8E 01	2	8	5.13	20.51
1.8E 01 -	2.6E 01	6	14	15.38	35.90
2.6E 01 -	3.8E 01	3	17	7.69	43.59
3.8E 01 -	5.6E 01	1	18	2.56	46.15
5.6E 01 -	8.3E 01	4	22	10.26	56.41
8.3E 01 -	1.2E 02	1	23	2.56	58.97
1.2E 02 -	1.8E 02	0	23	0.0	58.97
1.8E 02 -	2.6E 02	1	24	2.56	61.54
2.6E 02 -	3.8E 02	1	25	2.56	64.10

HISTOGRAM FOR COLUMN 14 (CO PPM)

```
5.0E 00 XXXXXXXX

7.0E 00

1.0E 01 XXXXXXXX

1.5E 01 XXXXX

2.0E 01 XXXXXXXXXXXXXX

3.0E 01 XXXXXXXX

5.0E 01 XXX

7.0E 01 XXXXXXXXXX

1.0E 02 XXX

1.5E 02

2.0E 02 XXX

3.0E 02 XXX
```

N	L	H	B	T	G	ANALYTICAL VALUES
9	5	0	0	0	0	25
23.08	12.82			0.0	0.0	

MAXIMUM = 3.00000E 02

MINIMUM = 5.00000E 00

GEOMETRIC MEAN = 2.64095E 01

GEOMETRIC DEVIATION = 2.96079E 00

FREQUENCY TABLE FOR COLUMN 15 (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	0	0	0.0	0.0
8.3E 00 -	1.2E 01	6	6	15.38	15.38
1.2E 01 -	1.8E 01	5	11	12.82	28.21
1.8E 01 -	2.6E 01	0	11	0.0	28.21
2.6E 01 -	3.8E 01	3	14	7.69	35.90
3.8E 01 -	5.6E 01	7	21	17.95	53.85
5.6E 01 -	8.3E 01	3	24	7.69	61.54
8.3E 01 -	1.2E 02	0	24	0.0	61.54
1.2E 02 -	1.8E 02	1	25	2.56	64.10
1.8E 02 -	2.6E 02	2	27	5.13	69.23
2.6E 02 -	3.8E 02	2	29	5.13	74.36
3.8E 02 -	5.6E 02	0	29	0.0	74.36
5.6E 02 -	8.3E 02	3	32	7.69	82.05
8.3E 02 -	1.2E 03	1	33	2.56	84.62
1.2E 03 -	1.8E 03	1	34	2.56	87.18

HISTOGRAM FOR COLUMN 15 (CR PPM)

```
1.0E 01 XXXXXXXXXXXXXXX

1.5E 01 XXXXXXXXXXXXX

2.0E 01

3.0E 01 XXXXXXXX

5.0E 01 XXXXXXXXXXXXXXXXXX

7.0E 01 XXXXXXXX

1.0E 02

1.5E 02 XXX

2.0E 02 XXXXX

3.0E 02 XXXXX

5.0E 02

7.0E 02 XXXXXXXX

1.0E 03 XXX

1.5E 03 XXX
```

N	L	H	B	T	G	ANALYTICAL VALUES
0	5	0	0	0	0	34
0.0	12.82			0.0	0.0	

MAXIMUM = 1.50000E 03

MINIMUM = 1.00000E 01

GEOMETRIC MEAN = 5.88981E 01

GEOMETRIC DEVIATION = 4.55703E 00

FREQUENCY TABLE FOR COLUMN 16 (CU PPM)

LIMITS LOWER	- UPPER	FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
3.8E 00 -	5.6E 00	1	1	2.56	2.56
5.6E 00 -	8.3E 00	1	2	2.56	5.13
8.3E 00 -	1.2E 01	1	3	2.56	7.69
1.2E 01 -	1.8E 01	2	5	5.13	12.82
1.8E 01 -	2.6E 01	1	6	2.56	15.38
2.6E 01 -	3.8E 01	6	12	15.38	30.77
3.8E 01 -	5.6E 01	2	14	5.13	35.90
5.6E 01 -	8.3E 01	7	21	17.95	53.85
8.3E 01 -	1.2E 02	1	22	2.56	56.41
1.2E 02 -	1.8E 02	2	24	5.13	61.54
1.8E 02 -	2.6E 02	0	24	0.0	61.54
2.6E 02 -	3.8E 02	0	24	0.0	61.54
3.8E 02 -	5.6E 02	2	26	5.13	66.67
5.6E 02 -	8.3E 02	0	26	0.0	66.67
8.3E 02 -	1.2E 03	0	26	0.0	66.67
1.2E 03 -	1.8E 03	0	26	0.0	66.67
1.8E 03 -	2.6E 03	0	26	0.0	66.67
2.6E 03 -	3.8E 03	1	27	2.56	69.23

HISTOGRAM FOR COLUMN 16 (CU PPM)

```
5.0E 00 XXX

7.0E 00 XXX

1.0E 01 XXX

1.5E 01 XXXXX

2.0E 01 XXX

3.0E 01 XXXXXXXXXXXXXX

5.0E 01 XXXXX

7.0E 01 XXXXXXXXXXXXXXXXXX

1.0E 02 XXX

1.5E 02 XXXXX

2.0E 02

3.0E 02

5.0E 02 XXXXX

7.0E 02

1.0E 03

1.5E 03

2.0E 03

3.0E 03 XXX
```

N	L	H	B	T	G	ANALYTICAL VALUES
0	12	0	0	0	0	27
0.0	30.77			0.0	0.0	

MAXIMUM = 3.00000E 03

MINIMUM = 5.00000E 00

GEOMETRIC MEAN = 5.32050E 01

GEOMETRIC DEVIATION = 3.89200E 00

FREQUENCY TABLE FOR COLUMN 17 (LA PPM)

LIMITS LOWER - UPPER	FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
1.8E 01 - 2.6E 01	3	3	7.69	7.69

HISTOGRAM FOR COLUMN 17 (LA PPM)

2.0E 01 XXXXXXXX

N	L	H	B	T	G	ANALYTICAL VALUES
30	6	0	0	0	0	3
76.92	15.38			0.0	0.0	

MAXIMUM = 2.00000E 01

MINIMUM = 2.00000E 01

GEOMETRIC MEAN = 1.99999E 01

GEOMETRIC DEVIATION = 1.00000E 00

FREQUENCY TABLE FOR COLUMN 18 (MO PPM)

LIMITS LOWER	- UPPER	FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
3.8E 00 -	5.6E 00	5	5	12.82	12.82
5.6E 00 -	8.3E 00	3	8	7.69	20.51
8.3E 00 -	1.2E 01	0	8	0.0	20.51
1.2E 01 -	1.8E 01	1	9	2.56	23.08
1.8E 01 -	2.6E 01	0	9	0.0	23.08
2.6E 01 -	3.8E 01	0	9	0.0	23.08
3.8E 01 -	5.6E 01	0	9	0.0	23.08
5.6E 01 -	8.3E 01	1	10	2.56	25.64

HISTOGRAM FOR COLUMN 18 (MO PPM)

```
5.0E 00 XXXXXXXXXXXXX

7.0E 00 XXXXXXXX

1.0E 01

1.5E 01 XXX

2.0E 01

3.0E 01

5.0E 01

7.0E 01 XXX
```

N	L	H	B	T	G	ANALYTICAL VALUES
16	13	0	0	0	0	10
41.03	33.33			0.0	0.0	

MAXIMUM = 7.00000E 01

MINIMUM = 5.00000E 00

GEOMETRIC MEAN = 8.03771E 00

GEOMETRIC DEVIATION = 2.30216E 00

FREQUENCY TABLE FOR COLUMN 19 (NB PPM)

LIMITS LOWER	- UPPER	FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
8.3E 00 -	1.2E 01	15	15	38.46	38.46
1.2E 01 -	1.8E 01	4	19	10.26	48.72

HISTOGRAM FOR COLUMN 19 (NB PPM)

```
1.0E 01 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

1.5E 01 XXXXXXXXXX
```

N	L	H	B	T	G	ANALYTICAL VALUES
0	20	0	0	0	0	19
0.0	51.28			0.0	0.0	

MAXIMUM = 1.50000E 01

MINIMUM = 1.00000E 01

GEOMETRIC MEAN = 1.08910E 01

GEOMETRIC DEVIATION = 1.18515E 00

FREQUENCY TABLE FOR COLUMN 20 (NI PPM)

LIMITS LOWER - UPPER	FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
3.8E 00 - 5.6E 00	1	1	2.56	2.56
5.6E 00 - 8.3E 00	0	1	0.0	2.56
8.3E 00 - 1.2E 01	2	3	5.13	7.69
1.2E 01 - 1.8E 01	2	5	5.13	12.82
1.8E 01 - 2.6E 01	5	10	12.82	25.64
2.6E 01 - 3.8E 01	5	15	12.82	38.46
3.8E 01 - 5.6E 01	1	16	2.56	41.03
5.6E 01 - 8.3E 01	2	18	5.13	46.15
8.3E 01 - 1.2E 02	6	24	15.38	61.54
1.2E 02 - 1.8E 02	4	28	10.26	71.79
1.8E 02 - 2.6E 02	1	29	2.56	74.36
2.6E 02 - 3.8E 02	0	29	0.0	74.36
3.8E 02 - 5.6E 02	1	30	2.56	76.92
5.6E 02 - 8.3E 02	1	31	2.56	79.49
8.3E 02 - 1.2E 03	0	31	0.0	79.49
1.2E 03 - 1.8E 03	0	31	0.0	79.49
1.8E 03 - 2.6E 03	0	31	0.0	79.49
2.6E 03 - 3.8E 03	1	32	2.56	82.05

HISTOGRAM FOR COLUMN 20 (NI PPM)

```
5.0E 00 XXX

7.0E 00

1.0E 01 XXXXX

1.5E 01 XXXXX

2.0E 01 XXXXXXXXXXXXX

3.0E 01 XXXXXXXXXXXXX

5.0E 01 XXX

7.0E 01 XXXXX

1.0E 02 XXXXXXXXXXXXXXX

1.5E 02 XXXXXXXXXX

2.0E 02 XXX

3.0E 02

5.0E 02 XXX

7.0E 02 XXX

1.0E 03

1.5E 03

2.0E 03

3.0E 03 XXX
```

N	L	H	B	T	G	ANALYTICAL VALUES
1	6	0	0	0	0	32
2.56	15.38			0.0	0.0	

MAXIMUM = 3.00000E 03

MINIMUM = 5.00000E 00

GEOMETRIC MEAN = 5.76995E 01

GEOMETRIC DEVIATION = 3.88605E 00

FREQUENCY TABLE FOR COLUMN 21 (PB PPM)

LIMITS LOWER	- UPPER	FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
8.3E 00 -	1.2E 01	6	6	15.38	15.38
1.2E 01 -	1.8E 01	2	8	5.13	20.51
1.8E 01 -	2.6E 01	5	13	12.82	33.33
2.6E 01 -	3.8E 01	1	14	2.56	35.90
3.8E 01 -	5.6E 01	2	16	5.13	41.03
5.6E 01 -	8.3E 01	1	17	2.56	43.59
8.3E 01 -	1.2E 02	3	20	7.69	51.28
1.2E 02 -	1.8E 02	2	22	5.13	56.41
1.8E 02 -	2.6E 02	0	22	0.0	56.41
2.6E 02 -	3.8E 02	0	22	0.0	56.41
3.8E 02 -	5.6E 02	1	23	2.56	58.97
5.6E 02 -	8.3E 02	0	23	0.0	58.97
8.3E 02 -	1.2E 03	1	24	2.56	61.54

HISTOGRAM FOR COLUMN 21 (PB PPM)

```
1.0E 01 XXXXXXXXXXXXXXX

1.5E 01 XXXXX

2.0E 01 XXXXXXXXXXXXX

3.0E 01 XXX

5.0E 01 XXXXX

7.0E 01 XXX

1.0E 02 XXXXXXXX

1.5E 02 XXXXX

2.0E 02

3.0E 02

5.0E 02 XXX

7.0E 02

1.0E 03 XXX
```

N	L	H	B	T	G	ANALYTICAL VALUES
10	5	0	0	0	0	24
25.64	12.82			0.0	0.0	

MAXIMUM = 1.00000E 03

MINIMUM = 1.00000E 01

GEOMETRIC MEAN = 3.69703E 01

GEOMETRIC DEVIATION = 3.67473E 00

FREQUENCY TABLE FOR COLUMN 22 (SB PPM)

LIMITS LOWER - UPPER	FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
8.3E 01 - 1.2E 02	1	1	2.56	2.56
1.2E 02 - 1.8E 02	1	2	2.56	5.13

HISTOGRAM FOR COLUMN 22 (SB PPM)

```
1.0E 02 XXX

1.5E 02 XXX
```

N	L	H	B	T	G	ANALYTICAL VALUES
34	1	0	0	0	2	2
87.18	2.56			0.0	5.13	

MAXIMUM = 1.50000E 02

MINIMUM = 1.00000E 02

GEOMETRIC MEAN = 1.22474E 02

GEOMETRIC DEVIATION = 1.33202E 00

FREQUENCY TABLE FOR COLUMN 23 (SC PPM)

LIMITS LOWER	- UPPER	FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
3.8E 00 -	5.6E 00	1	1	2.56	2.56
5.6E 00 -	8.3E 00	1	2	2.56	5.13
8.3E 00 -	1.2E 01	3	5	7.69	12.82
1.2E 01 -	1.8E 01	8	13	20.51	33.33
1.8E 01 -	2.6E 01	3	16	7.69	41.03
2.6E 01 -	3.8E 01	6	22	15.38	56.41
3.8E 01 -	5.6E 01	1	23	2.56	58.97

HISTOGRAM FOR COLUMN 23 (SC PPM)

```
5.0E 00 XXX

7.0E 00 XXX

1.0E 01 XXXXXXXX

1.5E 01 XXXXXXXXXXXXXXXXXXXX

2.0E 01 XXXXXXXX

3.0E 01 XXXXXXXXXXXXXXX

5.0E 01 XXX
```

N	L	H	B	T	G	ANALYTICAL VALUES
10	6	0	0	0	0	23
25.64	15.38			0.0	0.0	

MAXIMUM = 5.00000E 01

MINIMUM = 5.00000E 00

GEOMETRIC MEAN = 1.72006E 01

GEOMETRIC DEVIATION = 1.71714E 00

FREQUENCY TABLE FOR COLUMN 24 (SN PPM)

LIMITS LOWER - UPPER		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM	
N	L	H	B	T	G	ANALYTICAL VALUES
39	0	0	0	0	0	0
*****	0.0			0.0	0.0	

MAXIMUM = -9.99900E 48

MINIMUM = 9.99900E 48

GEOMETRIC MEAN = 9.99900E 48

GEOMETRIC DEVIATION = 9.99900E 48

FREQUENCY TABLE FOR COLUMN 25 (SR PPM)

LIMITS LOWER	- UPPER	FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
8.3E 01 -	1.2E 02	4	4	10.26	10.26
1.2E 02 -	1.8E 02	4	8	10.26	20.51
1.8E 02 -	2.6E 02	5	13	12.82	33.33
2.6E 02 -	3.8E 02	9	22	23.08	56.41
3.8E 02 -	5.6E 02	5	27	12.82	69.23
5.6E 02 -	8.3E 02	2	29	5.13	74.36
8.3E 02 -	1.2E 03	2	31	5.13	79.49

HISTOGRAM FOR COLUMN 25 (SR PPM)

```
1.0E 02 XXXXXXXXXX

1.5E 02 XXXXXXXXXX

2.0E 02 XXXXXXXXXXXXX

3.0E 02 XXXXXXXXXXXXXXXXXXXXXXX

5.0E 02 XXXXXXXXXXXXX

7.0E 02 XXXXX

1.0E 03 XXXXX
```

N	L	H	B	T	G	ANALYTICAL VALUES
0	8	0	0	0	0	31
0.0	20.51			0.0	0.0	

MAXIMUM = 1.00000E 03

MINIMUM = 1.00000E 02

GEOMETRIC MEAN = 2.76416E 02

GEOMETRIC DEVIATION = 1.93177E 00

FREQUENCY TABLE FOR COLUMN 26 (V PPM)

LIMITS LOWER	- UPPER	FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
8.3E 00 -	1.2E 01	1	1	2.56	2.56
1.2E 01 -	1.8E 01	4	5	10.26	12.82
1.8E 01 -	2.6E 01	3	8	7.69	20.51
2.6E 01 -	3.8E 01	5	13	12.82	33.33
3.8E 01 -	5.6E 01	3	16	7.69	41.03
5.6E 01 -	8.3E 01	1	17	2.56	43.59
8.3E 01 -	1.2E 02	2	19	5.13	48.72
1.2E 02 -	1.8E 02	3	22	7.69	56.41
1.8E 02 -	2.6E 02	5	27	12.82	69.23
2.6E 02 -	3.8E 02	11	38	28.21	97.44
3.8E 02 -	5.6E 02	0	38	0.0	97.44
5.6E 02 -	8.3E 02	0	38	0.0	97.44
8.3E 02 -	1.2E 03	1	39	2.56	100.00

HISTOGRAM FOR COLUMN 26 (V PPM)

```
1.0E 01 XXX

1.5E 01 XXXXXXXXXX

2.0E 01 XXXXXXXX

3.0E 01 XXXXXXXXXXXXX

5.0E 01 XXXXXXXX

7.0E 01 XXX

1.0E 02 XXXXX

1.5E 02 XXXXXXXX

2.0E 02 XXXXXXXXXXXXX

3.0E 02 XXXXXXXXXXXXXXXXXXXXXXXXXXX

5.0E 02

7.0E 02

1.0E 03 XXX
```

N	L	H	B	T	G	ANALYTICAL VALUES
0	0	0	0	0	0	39
0.0	0.0			0.0	0.0	

MAXIMUM = 1.00000E 03

MINIMUM = 1.00000E 01

GEOMETRIC MEAN = 9.00059E 01

GEOMETRIC DEVIATION = 3.41538E 00

FREQUENCY TABLE FOR COLUMN 27 (W PPM)

LIMITS LOWER - UPPER		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM	ANALYTICAL VALUES
N	L	H	B	T	G	
39	0	0	0	0	0	0
*****	0.0			0.0	0.0	

MAXIMUM = -9.99900E 48

MINIMUM = 9.99900E 48

GEOMETRIC MEAN = 9.99900E 48

GEOMETRIC DEVIATION = 9.99900E 48

FREQUENCY TABLE FOR COLUMN 28 (Y PPM)

LIMITS LOWER - UPPER	FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
8.3E 00 - 1.2E 01	8	8	20.51	20.51
1.2E 01 - 1.8E 01	12	20	30.77	51.28
1.8E 01 - 2.6E 01	2	22	5.13	56.41
2.6E 01 - 3.8E 01	4	26	10.26	66.67

HISTOGRAM FOR COLUMN 28 (Y PPM)

```
1.0E 01 XXXXXXXXXXXXXXXXXXXX

1.5E 01 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

2.0E 01 XXXXX

3.0E 01 XXXXXXXXXX
```

N	L	H	B	T	G	ANALYTICAL VALUES
0	13	0	0	0	0	26
0.0	33.33			0.0	0.0	

MAXIMUM = 3.00000E 01

MINIMUM = 1.00000E 01

GEOMETRIC MEAN = 1.50601E 01

GEOMETRIC DEVIATION = 1.44614E 00

FREQUENCY TABLE FOR COLUMN 29 (ZN PPM)

LIMITS LOWER	- UPPER	FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
1.8E 02 -	2.6E 02	1	1	2.56	2.56
2.6E 02 -	3.8E 02	2	3	5.13	7.69
3.8E 02 -	5.6E 02	1	4	2.56	10.26
5.6E 02 -	8.3E 02	5	9	12.82	23.08
8.3E 02 -	1.2E 03	3	12	7.69	30.77
1.2E 03 -	1.8E 03	0	12	0.0	30.77
1.8E 03 -	2.6E 03	0	12	0.0	30.77
2.6E 03 -	3.8E 03	0	12	0.0	30.77
3.8E 03 -	5.6E 03	0	12	0.0	30.77
5.6E 03 -	8.3E 03	1	13	2.56	33.33

HISTOGRAM FOR COLUMN 29 (ZN PPM)

```
2.0E 02 XXX

3.0E 02 XXXXX

5.0E 02 XXX

7.0E 02 XXXXXXXXXXXX

1.0E 03 XXXXXXXX

1.5E 03

2.0E 03

3.0E 03

5.0E 03

7.0E 03 XXX
```

N	L	H	B	T	G	ANALYTICAL VALUES
11	15	0	0	0	0	13
28.21	38.46			0.0	0.0	

MAXIMUM = 7.00000E 03

MINIMUM = 2.00000E 02

GEOMETRIC MEAN = 7.04788E 02

GEOMETRIC DEVIATION = 2.35483E 00

FREQUENCY TABLE FOR COLUMN 30 (ZR 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	6	6	15.38	15.38
2.6E 01 -	3.8E 01	0	6	0.0	15.38
3.8E 01 -	5.6E 01	4	10	10.26	25.64
5.6E 01 -	8.3E 01	14	24	35.90	61.54
8.3E 01 -	1.2E 02	7	31	17.95	79.49
1.2E 02 -	1.8E 02	2	33	5.13	84.62
1.8E 02 -	2.6E 02	1	34	2.56	87.18

HISTOGRAM FOR COLUMN 30 (ZR PPM)

```
2.0E 01 XXXXXXXXXXXXXXX

3.0E 01

5.0E 01 XXXXXXXXXX

7.0E 01 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

1.0E 02 XXXXXXXXXXXXXXXXXX

1.5E 02 XXXXX

2.0E 02 XXX
```

N	L	H	B	T	G	ANALYTICAL VALUES
0	5	0	0	0	0	34
0.0	12.82			0.0	0.0	

MAXIMUM = 2.00000E 02

MINIMUM = 2.00000E 01

GEOMETRIC MEAN = 6.26125E 01

GEOMETRIC DEVIATION = 1.85514E 00

FREQUENCY TABLE FOR COLUMN 31 (AU 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	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	2.56	2.56
1.2E-01 -	1.8E-01	0	1	0.0	2.56
1.8E-01 -	2.6E-01	1	2	2.56	5.13
2.6E-01 -	3.8E-01	1	3	2.56	7.69
3.8E-01 -	5.6E-01	3	6	7.69	15.38
5.6E-01 -	8.3E-01	1	7	2.56	17.95

HISTOGRAM FOR COLUMN 31 (AU PPM)

```
1.0E-01 XXX

1.5E-01

2.0E-01 XXX

3.0E-01 XXX

5.0E-01 XXXXXXXX

7.0E-01 XXX
```

N	L	H	B	T	G	ANALYTICAL VALUES
0	32	0	0	0	0	7
0.0	82.05			0.0	0.0	

MAXIMUM = 7.00000E-01

MINIMUM = 1.00000E-01

GEOMETRIC MEAN = 3.39979E-01

GEOMETRIC DEVIATION = 1.97101E 00

A470 STATISTICAL SUMMARY DATE 4/27/70

ELEMENT	N	L	H	B	T	G	ANALYTICAL VALUES
FE PCT	0	0	0	0	0	2	37
MG PCT	0	0	0	0	0	0	39
CA PCT	0	2	0	0	0	0	37
TI PCT	0	1	0	0	0	1	37
MN PPM	0	0	0	0	0	0	39
AG PPM	21	8	0	0	0	0	10
AS PPM	32	4	0	0	0	0	3
AU PPM	39	0	0	0	0	0	0
B PPM	10	13	0	0	0	0	16
BA PPM	0	9	0	0	0	0	30
BE PPM	17	9	0	0	0	0	13
BI PPM	39	0	0	0	0	0	0
CD PPM	38	0	0	0	0	0	1
CO PPM	9	5	0	0	0	0	25
CR PPM	0	5	0	0	0	0	34
CU PPM	0	12	0	0	0	0	27
LA PPM	30	6	0	0	0	0	3
MO PPM	16	13	0	0	0	0	10
NB PPM	0	20	0	0	0	0	19
NI PPM	1	6	0	0	0	0	32
PB PPM	10	5	0	0	0	0	24
SB PPM	34	1	0	0	0	2	2
SC PPM	10	6	0	0	0	0	23
SN PPM	39	0	0	0	0	0	0
SR PPM	0	8	0	0	0	0	31
V PPM	0	0	0	0	0	0	39
W PPM	39	0	0	0	0	0	0
Y PPM	0	13	0	0	0	0	26
ZN PPM	11	15	0	0	0	0	13
ZR PPM	0	5	0	0	0	0	34
AU PPM	0	32	0	0	0	0	7

ELEMENT	GEOMETRIC MEAN	GEOMETRIC DEVIATION	REMARKS
FE PCT	********	******	2 GREATER THAN VALUES. NO COMPUTATIONS.
MG PCT	0.727057	5.14	39 SAMPLES AND 39 ANALYTICAL VALUES.
CA PCT	1.140908	4.69	2 NOT DETECTED, LESS THAN, OR TRACE VALUES. 37 REPORTED VALUES.
TI PCT	********	******	1 GREATER THAN VALUES. NO COMPUTATIONS.
MN PPM	339.748535	3.21	39 SAMPLES AND 39 ANALYTICAL VALUES.
AG PPM	0.072555	14.12	29 NOT DETECTED, LESS THAN, OR TRACE VALUES. 10 REPORTED VALUES.
AS PPM	********	******	36 NOT DETECTED, LESS THAN, OR TRACE VALUES. 3 REPORTED VALUES. NO COMPUTATIONS.
AU PPM	********	******	39 NOT DETECTED, LESS THAN, OR TRACE VALUES. 0 REPORTED VALUES. NO COMPUTATIONS.
B PPM	6.849256	2.20	23 NOT DETECTED, LESS THAN, OR TRACE VALUES. 16 REPORTED VALUES.
BA PPM	176.009491	8.10	9 NOT DETECTED, LESS THAN, OR TRACE VALUES. 30 REPORTED VALUES.
BE PPM	0.640572	1.88	26 NOT DETECTED, LESS THAN, OR TRACE VALUES. 13 REPORTED VALUES.
BI PPM	********	******	39 NOT DETECTED, LESS THAN, OR TRACE VALUES. 0 REPORTED VALUES. NO COMPUTATIONS.
CD PPM	********	******	38 NOT DETECTED, LESS THAN, OR TRACE VALUES. 1 REPORTED VALUES. NO COMPUTATIONS.
CO PPM	8.562166	6.24	14 NOT DETECTED, LESS THAN, OR TRACE VALUES. 25 REPORTED VALUES.
CR PPM	36.789246	6.64	5 NOT DETECTED, LESS THAN, OR TRACE VALUES. 34 REPORTED VALUES.
CU PPM	15.480514	9.56	12 NOT DETECTED, LESS THAN, OR TRACE VALUES. 27 REPORTED VALUES.
LA PPM	********	0	36 NOT DETECTED, LESS THAN, OR TRACE VALUES. 3 REPORTED VALUES. NO COMPUTATIONS.
MO PPM	********	******	29 NOT DETECTED, LESS THAN, OR TRACE VALUES. 10 REPORTED VALUES. NO COMPUTATIONS.
NB PPM	8.276368	1.38	20 NOT DETECTED, LESS THAN, OR TRACE VALUES. 19 REPORTED VALUES.
NI PPM	29.717041	6.74	7 NOT DETECTED, LESS THAN, OR TRACE VALUES. 32 REPORTED VALUES.
PB PPM	12.523931	6.18	15 NOT DETECTED, LESS THAN, OR TRACE VALUES. 24 REPORTED VALUES.

SB	PPM	********	******	2	GREATER THAN VALUES. NO COMPUTATIONS.	
SC	PPM	6.431771	3.78	16	NOT DETECTED, LESS THAN, OR TRACE VALUES.	23 REPORTED VALUES.
SN	PPM	********	******	39	NOT DETECTED, LESS THAN, OR TRACE VALUES.	0 REPORTED VALUES. NO COMPUTATIONS.
SR	PPM	194.622711	2.52	8	NOT DETECTED, LESS THAN, OR TRACE VALUES.	31 REPORTED VALUES.
V	PPM	90.005630	3.42	39	SAMPLES AND 39 ANALYTICAL VALUES.	
W	PPM	********	******	39	NOT DETECTED, LESS THAN, OR TRACE VALUES.	0 REPORTED VALUES. NO COMPUTATIONS.
Y	PPM	10.881561	1.78	13	NOT DETECTED, LESS THAN, OR TRACE VALUES.	26 REPORTED VALUES.
ZN	PPM	81.283310	6.86	26	NOT DETECTED, LESS THAN, OR TRACE VALUES.	13 REPORTED VALUES.
ZR	PPM	45.732758	2.74	5	NOT DETECTED, LESS THAN, OR TRACE VALUES.	34 REPORTED VALUES.
AU	PPM	0.000260	*****	32	NOT DETECTED, LESS THAN, OR TRACE VALUES.	7 REPORTED VALUES.

TABLE 3. SUMDUM B-5 STREAM SEDIMENTS

MAP NUMBER	SAMPLE	FE PCT	MG PCT	CA PCT	TI PCT	MN PPM	AG PPM	AS PPM	AU PPM	B PPM	BA PPM
20	SB57GK	3.0000	1.5000	0.7000	0.7000	500.0000	0.0 N	0.0 N	0.0 N	10.0000	700.0000
21	69AGK12	10.0000	0.7000	0.5000	1.0000	200.0000	0.0 L	0.0 N	0.0 N	10.0000	700.0000
22	SB511GK	3.0000	0.7000	0.5000	1.0000G	500.0000	0.0 N	0.0 N	0.0 N	15.0000	700.0000
23	SB510GK	10.0000	1.5000	1.0000	1.0000	1000.0000	0.0 N	0.0 N	0.0 N	15.0000	500.0000
24	SB59GK	5.0000	1.5000	1.0000	1.0000	1000.0000	0.0 N	0.0 N	0.0 N	10.0000	700.0000
25	SB58GK	5.0000	1.0000	0.7000	0.7000	500.0000	0.0 N	0.0 L	0.0 N	10.0000	500.0000
26	SB513GK	5.0000	1.0000	0.3000	1.0000	500.0000	0.0 N	0.0 N	0.0 N	20.0000	700.0000
27	SB514GK	10.0000	2.0000	1.5000	1.0000G	700.0000	0.0 N	0.0 N	0.0 N	15.0000	700.0000
28	SB515GK	7.0000	1.5000	0.7000	1.0000G	1000.0000	0.0 N	0.0 N	0.0 N	10.0000	700.0000
29	SB516GK	7.0000	1.5000	1.0000	1.0000	500.0000	0.0 N	0.0 N	0.0 N	0.0 N	300.0000
30	AKD379	15.0000	3.0000	2.0000	1.0000G	3000.0000	0.0 N	0.0 N	0.0 N	10.0000	700.0000
31	AKD378	10.0000	3.0000	2.0000	1.0000	700.0000	0.0 N	0.0 N	0.0 N	0.0 L	300.0000
32	AKD377	5.0000	1.5000	1.5000	1.0000	500.0000	0.0 N	0.0 N	0.0 N	10.0000	300.0000
33	AKD376	15.0000	1.5000	1.5000	1.0000G	1000.0000	0.0 N	0.0 N	0.0 N	10.0000	300.0000
34	AKD375	15.0000	3.0000	2.0000	1.0000G	1000.0000	0.0 N	0.0 N	0.0 N	15.0000	1000.0000
35	AKD380	20.0000	1.0000	2.0000	1.0000G	5000.0000G	0.0 N	0.0 N	0.0 N	10.0000	0.0 L
36	AKD381	10.0000	1.0000	1.0000	1.0000G	500.0000	0.0 N	0.0 N	0.0 N	15.0000	500.0000
37	SB5457BD	10.0000	1.0000	1.0000	0.7000	1500.0000	0.0 N	0.0 N	0.0 N	15.0000	500.0000
38	SB5458BD	10.0000	1.0000	1.0000	0.7000	2000.0000	0.0 N	0.0 N	0.0 N	10.0000	300.0000
39	AKD385	7.0000	1.0000	0.7000	1.0000	1500.0000	0.0 N	0.0 N	0.0 N	20.0000	300.0000
40	AKD384	7.0000	1.0000	0.7000	0.7000	2000.0000	0.0 N	0.0 N	0.0 N	30.0000	300.0000
41	AKD382	10.0000	2.0000	1.0000	0.7000	1000.0000	0.0 N	0.0 N	0.0 N	20.0000	300.0000
42	AMG361	5.0000	1.5000	2.0000	0.7000	3000.0000	0.0 N	0.0 N	0.0 N	50.0000	3000.0000

SUMDUM B-5 STREAM SEDIMENTS

	SAMPLE	BE PPM	BI PPM	CD PPM	CO PPM	CR PPM	CU PPM	LA PPM	MO PPM	NB PPM	NI PPM
20	SB57GK	0.0 L	0.0 M	0.0 N	20.0000	150.0000	20.0000	0.0 L	0.0 L	10.0000	30.0000
21	69AGK12	0.0 L	0.0 N	0.0 N	20.0000	70.0000	30.0000	0.0 L	0.0 L	10.0000	30.0000
22	SB511GK	1.0000	0.0 N	0.0 N	10.0000	70.0000	20.0000	0.0 L	0.0 L	10.0000	30.0000
23	SB510GK	0.0 L	0.0 N	0.0 N	30.0000	150.0000	10.0000	0.0 L	0.0 L	10.0000	70.0000
24	SB59GK	1.0000	0.0 N	0.0 N	30.0000	100.0000	20.0000	20.0000	0.0 L	10.0000	70.0000
25	SB58GK	0.0 L	0.0 N	0.0 N	20.0000	150.0000	10.0000	0.0 N	0.0 L	10.0000	50.0000
26	SB513GK	1.0000	0.0 N	0.0 N	20.0000	100.0000	50.0000	0.0 L	0.0 L	10.0000	30.0000
27	SB514GK	1.5000	0.0 N	0.0 N	30.0000	150.0000	20.0000	20.0000	0.0 L	15.0000	70.0000
28	SB515GK	0.0 L	0.0 N	0.0 N	50.0000	150.0000	15.0000	0.0 L	0.0 L	10.0000	30.0000
29	SB516GK	0.0 L	0.0 N	0.0 N	30.0000	150.0000	50.0000	0.0 L	0.0 L	10.0000	70.0000
30	AKD379	0.0 N	0.0 N	0.0 N	30.0000	200.0000	70.0000	0.0 N	5.0000	10.0000	150.0000
31	AKD378	0.0 N	0.0 N	0.0 N	30.0000	300.0000	50.0000	0.0 N	0.0 L	10.0000	150.0000
32	AKD377	0.0 N	0.0 N	0.0 N	15.0000	150.0000	5.0000	0.0 N	0.0 N	10.0000	50.0000
33	AKD376	0.0 N	0.0 N	0.0 N	20.0000	150.0000	5.0000	0.0 N	0.0 L	10.0000	30.0000
34	AKD375	0.0 N	0.0 N	0.0 N	30.0000	300.0000	150.0000	0.0 N	0.0 L	10.0000	150.0000
35	AKD380	0.0 N	0.0 N	0.0 N	10.0000	70.0000	15.0000	0.0 N	0.0 L	10.0000	7.0000
36	AKD381	0.0 N	0.0 N	0.0 N	15.0000	100.0000	20.0000	0.0 L	0.0 L	10.0000	30.0000
37	SB54578D	0.0 L	0.0 N	0.0 N	20.0000	70.0000	150.0000	0.0 L	0.0 L	10.0000	30.0000
38	SB54588D	0.0 L	0.0 N	0.0 N	20.0000	70.0000	5.0000	0.0 N	0.0 L	10.0000	30.0000
39	AKD385	0.0 N	0.0 N	0.0 N	15.0000	70.0000	0.0 L	0.0 N	0.0 L	0.0 L	15.0000
40	AKD384	0.0 N	0.0 N	0.0 N	15.0000	70.0000	0.0 L	0.0 N	0.0 L	10.0000	15.0000
41	AKD382	0.0 N	0.0 N	0.0 N	15.0000	150.0000	30.0000	0.0 N	0.0 L	10.0000	30.0000
42	AMG361	1.0000	0.0 N	0.0 N	15.0000	30.0000	70.0000	0.0 L	0.0 N	0.0 L	30.0000

SUMDUM 8-5 STREAM SEDIMENTS

	SAMPLE	PB PPM	SB PPM	SC PPM	SN PPM	SR PPM	V PPM	W PPM	Y PPM	ZN PPM	ZR PPM
20	SB57GK	0.0 N	0.0 N	15.0000	0.0 N	200.0000	200.0000	0.0 N	15.0000	0.0 L	70.0000
21	69AGK12	0.0 N	0.0 N	15.0000	0.0 N	150.0000	150.0000	0.0 N	15.0000	0.0 L	150.0000
22	SB511GK	0.0 L	0.0 N	20.0000	0.0 N	150.0000	200.0000	0.0 N	15.0000	0.0 L	70.0000
23	SB510GK	10.0000	0.0 N	20.0000	0.0 N	300.0000	300.0000	0.0 N	20.0000	0.0 L	150.0000
24	SB59GK	0.0 L	0.0 N	20.0000	0.0 N	300.0000	200.0000	0.0 N	20.0000	0.0 L	100.0000
25	SB58GK	0.0 N	0.0 N	15.0000	0.0 N	200.0000	200.0000	0.0 N	10.0000	0.0 L	70.0000
26	SB513GK	0.0 L	0.0 N	20.0000	0.0 N	150.0000	200.0000	0.0 N	20.0000	0.0 L	70.0000
27	SB514GK	0.0 L	0.0 N	30.0000	0.0 N	300.0000	300.0000	0.0 N	30.0000	200.0000	200.0000
28	SB515GK	10.0000	0.0 N	20.0000	0.0 N	200.0000	300.0000	0.0 N	15.0000	0.0 L	100.0000
29	SB516GK	0.0 N	0.0 N	15.0000	0.0 N	300.0000	200.0000	0.0 N	15.0000	0.0 L	70.0000
30	AKD379	0.0 L	0.0 N	30.0000	0.0 N	0.0 L	300.0000	0.0 N	20.0000	200.0000	100.0000
31	AKD378	0.0 N	0.0 N	20.0000	0.0 N	150.0000	200.0000	0.0 N	15.0000	0.0 L	70.0000
32	AKD377	0.0 L	0.0 N	15.0000	0.0 N	150.0000	150.0000	0.0 N	10.0000	0.0 N	70.0000
33	AKD376	0.0 N	0.0 N	20.0000	0.0 N	150.0000	200.0000	0.0 N	20.0000	0.0 L	200.0000
34	AKD375	15.0000	0.0 N	20.0000	0.0 N	150.0000	200.0000	0.0 N	30.0000	0.0 L	70.0000
35	AKD380	0.0 N	0.0 N	30.0000	0.0 N	150.0000	200.0000	0.0 N	30.0000	200.0000	70.0000
36	AKD381	10.0000	0.0 N	20.0000	0.0 N	150.0000	300.0000	0.0 N	15.0000	0.0 L	70.0000
37	SB5457BD	15.0000	0.0 N	20.0000	0.0 N	300.0000	200.0000	0.0 N	20.0000	0.0 L	70.0000
38	SB5458BD	0.0 L	0.0 N	20.0000	0.0 N	200.0000	200.0000	0.0 N	15.0000	0.0 L	70.0000
39	AKD385	10.0000	0.0 N	15.0000	0.0 N	300.0000	150.0000	0.0 N	10.0000	0.0 N	70.0000
40	AKD384	10.0000	0.0 N	15.0000	0.0 N	150.0000	150.0000	0.0 N	10.0000	0.0 N	70.0000
41	AKD382	0.0 L	0.0 N	15.0000	0.0 N	150.0000	200.0000	0.0 N	15.0000	0.0 L	70.0000
42	AMG361	15.0000	0.0 N	20.0000	0.0 N	300.0000	300.0000	0.0 N	20.0000	0.0 L	70.0000

SUMDUM B-5 STREAM SEDIMENTS

	SAMPLE	AU PPM
20	SB57GK	0.0200L
21	69AGK12	0.0200L
22	SB511GK	0.0200L
23	SB510GK	0.0200L
24	SB59GK	0.0200L
25	SB58GK	0.0200L
26	SB513GK	0.0200L
27	SB514GK	0.0200L
28	SB515GK	0.0200L
29	SB516GK	0.0200L
30	AKD379	0.1000L
31	AKD378	0.0200L
32	AKD377	0.0200L
33	AKD376	0.0200L
34	AKD375	0.0200L
35	AKD380	0.0200L
36	AKD381	0.0200L
37	SB54578D	0.0200L
38	SB54588D	0.0200L
39	AKD385	0.0400L
40	AKD384	0.0200L
41	AKD382	0.0200L
42	AMG361	0.0200L

FREQUENCY TABLE FOR COLUMN 1 (FE 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	0	0	0.0	0.0
2.6E 00 -	3.8E 00	2	2	8.70	8.70
3.8E 00 -	5.6E 00	5	7	21.74	30.43
5.6E 00 -	8.3E 00	4	11	17.39	47.83
8.3E 00 -	1.2E 01	8	19	34.78	82.61
1.2E 01 -	1.8E 01	3	22	13.04	95.65
1.8E 01 -	2.6E 01	1	23	4.35	100.00

HISTOGRAM FOR COLUMN 1 (FE PCT)

```
3.0E 00 XXXXXXXXX

5.0E 00 XXXXXXXXXXXXXXXXXXXXX

7.0E 00 XXXXXXXXXXXXXXXXX

1.0E 01 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

1.5E 01 XXXXXXXXXXXXX

2.0E 01 XXXX
```

N	L	H	B	T	G	ANALYTICAL VALUES
0	0	0	0	0	0	23
0.0	0.0			0.0	0.0	

MAXIMUM = 2.00000E 01

MINIMUM = 3.00000E 00

GEOMETRIC MEAN = 7.91052E 00

GEOMETRIC DEVIATION = 1.65027E 00

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	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	2	2	8.70	8.70
8.3E-01 -	1.2E 00	8	10	34.78	43.48
1.2E 00 -	1.8E 00	8	18	34.78	78.26
1.8E 00 -	2.6E 00	2	20	8.70	86.96
2.6E 00 -	3.8E 00	3	23	13.04	100.00

HISTOGRAM FOR COLUMN 2 (MG PCT)

```
7.0E-01 XXXXXXXXX

1.0E 00 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

1.5E 00 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

2.0E 00 XXXXXXXXX

3.0E 00 XXXXXXXXXXXXX
```

N	L	H	B	T	G	ANALYTICAL VALUES
0	0	0	0	0	0	23
0.0	0.0			0.0	0.0	

MAXIMUM = 3.00000E 00

MINIMUM = 7.00000E-01

GEOMETRIC MEAN = 1.36832E 00

GEOMETRIC DEVIATION = 1.52269E 00

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	0	0	0.0	0.0
1.8E-01 -	2.6E-01	0	0	0.0	0.0
2.6E-01 -	3.8E-01	1	1	4.35	4.35
3.8E-01 -	5.6E-01	2	3	8.70	13.04
5.6E-01 -	8.3E-01	5	8	21.74	34.78
8.3E-01 -	1.2E 00	7	15	30.43	65.22
1.2E 00 -	1.8E 00	3	18	13.04	78.26
1.8E 00 -	2.6E 00	5	23	21.74	100.00

HISTOGRAM FOR COLUMN 3 (CA PCT)

```
3.0E-01 XXXX

5.0E-01 XXXXXXXXX

7.0E-01 XXXXXXXXXXXXXXXXXXXXX

1.0E 00 XXXXXXXXXXXXXXXXXXXXXXXXXXXXX

1.5E 00 XXXXXXXXXXXXX

2.0E 00 XXXXXXXXXXXXXXXXXXXXX
```

N	L	H	B	T	G	ANALYTICAL VALUES
0	0	0	0	0	0	23
0.0	0.0			0.0	0.0	

MAXIMUM = 2.00000E 00

MINIMUM = 3.00000E-01

GEOMETRIC MEAN = 1.01350E 00

GEOMETRIC DEVIATION = 1.68122E 00

FREQUENCY TABLE FOR COLUMN 4 (TI PCT)

LIMITS LOWER	- UPPER	FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
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	0	0	0.0	0.0
1.2E-02 -	1.8E-02	0	0	0.0	0.0
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	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	7	7	30.43	30.43
8.3E-01 -	1.2E 00	8	15	34.78	65.22

HISTOGRAM FOR COLUMN 4 (TI PCT)

```
7.0E-01 XXXXXXXXXXXXXXXXXXXXXXXXXXXXX

1.0E 00 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
```

N	L	H	B	T	G	ANALYTICAL VALUES
0	0	0	0	0	8	15
0.0	0.0			0.0	34.78	

MAXIMUM = 1.00000E 00

MINIMUM = 7.00000E-01

GEOMETRIC MEAN = 8.46667E-01

GEOMETRIC DEVIATION = 1.20224E 00

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	0	0	0.0	0.0
1.8E 02 -	2.6E 02	1	1	4.35	4.35
2.6E 02 -	3.8E 02	0	1	0.0	4.35
3.8E 02 -	5.6E 02	7	8	30.43	34.78
5.6E 02 -	8.3E 02	2	10	8.70	43.48
8.3E 02 -	1.2E 03	6	16	26.09	69.57
1.2E 03 -	1.8E 03	2	18	8.70	78.26
1.8E 03 -	2.6E 03	2	20	8.70	86.96
2.6E 03 -	3.8E 03	2	22	8.70	95.65

HISTOGRAM FOR COLUMN 5 (MN PPM)

```
2.0E 02 XXXX

3.0E 02

5.0E 02 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

7.0E 02 XXXXXXXXX

1.0E 03 XXXXXXXXXXXXXXXXXXXXXXXXXX

1.5E 03 XXXXXXXXX

2.0E 03 XXXXXXXXX

3.0E 03 XXXXXXXXX
```

N	L	H	B	T	G	ANALYTICAL VALUES
0	0	0	0	0	1	22
0.0	0.0			0.0	4.35	

MAXIMUM = 3.00000E 03

MINIMUM = 2.00000E 02

GEOMETRIC MEAN = 8.81267E 02

GEOMETRIC DEVIATION = 1.96359E 00

FREQUENCY TABLE FOR COLUMN 6 (AG PPM)

LIMITS LOWER - UPPER		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM	
N	L	H	B	T	G	ANALYTICAL VALUES
22	1	0	0	0	0	0
95.65	4.35			0.0	0.0	

MAXIMUM = -9.99900E 48

MINIMUM = 9.99900E 48

GEOMETRIC MEAN = 9.99900E 48

GEOMETRIC DEVIATION = 9.99900E 48

FREQUENCY TABLE FOR COLUMN 7 (AS PPM)

LIMITS LOWER - UPPER		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM	ANALYTICAL VALUES
N	L	H	B	T	G	
22	1	0	0	0	0	0
95.65	4.35			0.0	0.0	

MAXIMUM = -9.99900E 48

MINIMUM = 9.99900E 48

GEOMETRIC MEAN = 9.99900E 48

GEOMETRIC DEVIATION = 9.99900E 48

FREQUENCY TABLE FOR COLUMN 8 (AU PPM)

LIMITS LOWER - UPPER		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM	ANALYTICAL VALUES
N	L	H	B	T	G	
23	0	0	0	0	0	0
*****	0.0			0.0	0.0	

MAXIMUM = -9.99900E 48

MINIMUM = 9.99900E 48

GEOMETRIC MEAN = 9.99900E 48

GEOMETRIC DEVIATION = 9.99900E 48

FREQUENCY TABLE FOR COLUMN 9 (B PPM)

LIMITS LOWER	- UPPER	FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
8.3E 00 -	1.2E 01	10	10	43.48	43.48
1.2E 01 -	1.8E 01	6	16	26.09	69.57
1.8E 01 -	2.6E 01	3	19	13.04	82.61
2.6E 01 -	3.8E 01	1	20	4.35	86.96
3.8E 01 -	5.6E 01	1	21	4.35	91.30

HISTOGRAM FOR COLUMN 9 (B PPM)

```
1.0E 01 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

1.5E 01 XXXXXXXXXXXXXXXXXXXXXXXXXX

2.0E 01 XXXXXXXXXXXXX

3.0E 01 XXXX

5.0E 01 XXXX
```

N	L	H	B	T	G	ANALYTICAL VALUES
1	1	0	0	0	0	21
4.35	4.35			0.0	0.0	

MAXIMUM = 5.00000E 01

MINIMUM = 1.00000E 01

GEOMETRIC MEAN = 1.41032E 01

GEOMETRIC DEVIATION = 1.54126E 00

FREQUENCY TABLE FOR COLUMN 10 (BA PPM)

LIMITS LOWER	- UPPER	FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
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	0	0	0.0	0.0
1.8E 02 -	2.6E 02	0	0	0.0	0.0
2.6E 02 -	3.8E 02	8	8	34.78	34.78
3.8E 02 -	5.6E 02	4	12	17.39	52.17
5.6E 02 -	8.3E 02	8	20	34.78	86.96
8.3E 02 -	1.2E 03	1	21	4.35	91.30
1.2E 03 -	1.8E 03	0	21	0.0	91.30
1.8E 03 -	2.6E 03	0	21	0.0	91.30
2.6E 03 -	3.8E 03	1	22	4.35	95.65

HISTOGRAM FOR COLUMN 10 (BA PPM)

```
3.0E 02 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

5.0E 02 XXXXXXXXXXXXXXXXX

7.0E 02 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

1.0E 03 XXXX

1.5E 03

2.0E 03

3.0E 03 XXXX
```

N	L	H	B	T	G	ANALYTICAL VALUES
0	1	0	0	0	0	22
0.0	4.35			0.0	0.0	

MAXIMUM = 3.00000E 03

MINIMUM = 3.00000E 02

GEOMETRIC MEAN = 5.25389E 02

GEOMETRIC DEVIATION = 1.75420E 00

FREQUENCY TABLE FOR COLUMN 11 (BE PPM)

LIMITS LOWER - UPPER	FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
8.3E-01 - 1.2E 00	4	4	17.39	17.39
1.2E 00 - 1.8E 00	1	5	4.35	21.74

HISTOGRAM FOR COLUMN 11 (BE PPM)

```
1.0E 00 XXXXXXXXXXXXXXXX

1.5E 00 XXXX
```

N	L	H	B	T	G	ANALYTICAL VALUES
10	8	0	0	0	0	5
43.48	34.78			0.0	0.0	

MAXIMUM = 1.50000E 00

MINIMUM = 1.00000E 00

GEOMETRIC MEAN = 1.08447E 00

GEOMETRIC DEVIATION = 1.19881E 00

FREQUENCY TABLE FOR COLUMN 12 (BI PPM)

LIMITS LOWER - UPPER		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM	
N	L	H	B	T	G	ANALYTICAL VALUES
22	0	0	0	0	0	0
*****	0.0			0.0	0.0	

MAXIMUM = -9.99900E 48

MINIMUM = 9.99900E 48

GEOMETRIC MEAN = 9.99900E 48

GEOMETRIC DEVIATION = 9.99900E 48

FREQUENCY TABLE FOR COLUMN 13 (CD PPM)

LIMITS LOWER - UPPER	FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM	
N	L	H	B	T	G
23	0	0	0	0	0
*****	0.0			0.0	0.0

ANALYTICAL VALUES

0

MAXIMUM = -9.99900E 48

MINIMUM = 9.99900E 48

GEOMETRIC MEAN = 9.99900E 48

GEOMETRIC DEVIATION = 9.99900E 48

FREQUENCY TABLE FOR COLUMN 14 (CO 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	2	2	8.70	8.70
1.2E 01 -	1.8E 01	6	8	26.09	34.78
1.8E 01 -	2.6E 01	7	15	30.43	65.22
2.6E 01 -	3.8E 01	7	22	30.43	95.65
3.8E 01 -	5.6E 01	1	23	4.35	100.00

HISTOGRAM FOR COLUMN 14 (CO PPM)

```
1.0E 01 XXXXXXXXX

1.5E 01 XXXXXXXXXXXXXXXXXXXXXXXXX

2.0E 01 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

3.0E 01 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

5.0E 01 XXXX
```

N	L	H	B	T	G	ANALYTICAL VALUES
0	0	0	0	0	0	23
0.0	0.0			0.0	0.0	

MAXIMUM = 5.00000E 01

MINIMUM = 1.00000E 01

GEOMETRIC MEAN = 2.05661E 01

GEOMETRIC DEVIATION = 1.48419E 00

FREQUENCY TABLE FOR COLUMN 15 (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	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	1	1	4.35	4.35
3.8E 01 -	5.6E 01	0	1	0.0	4.35
5.6E 01 -	8.3E 01	7	8	30.43	34.78
8.3E 01 -	1.2E 02	3	11	13.04	47.83
1.2E 02 -	1.8E 02	9	20	39.13	86.96
1.8E 02 -	2.6E 02	1	21	4.35	91.30
2.6E 02 -	3.8E 02	2	23	8.70	100.00

HISTOGRAM FOR COLUMN 15 (CR PPM)

```
3.0E 01 XXXX

5.0E 01

7.0E 01 XXXXXXXXXXXXXXXXXXXXXXXXXXXXX

1.0E 02 XXXXXXXXXXXXX

1.5E 02 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

2.0E 02 XXXX

3.0E 02 XXXXXXXXX
```

N	L	H	B	T	G	ANALYTICAL VALUES
0	0	0	0	0	0	23
0.0	0.0			0.0	0.0	

MAXIMUM = 3.00000E 02

MINIMUM = 3.00000E 01

GEOMETRIC MEAN = 1.13135E 02

GEOMETRIC DEVIATION = 1.71238E 00

FREQUENCY TABLE FOR COLUMN 16 (CU PPM)

LIMITS LOWER	- UPPER	FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
3.8E 00 -	5.6E 00	3	3	13.04	13.04
5.6E 00 -	8.3E 00	0	3	0.0	13.04
8.3E 00 -	1.2E 01	2	5	8.70	21.74
1.2E 01 -	1.8E 01	2	7	8.70	30.43
1.8E 01 -	2.6E 01	5	12	21.74	52.17
2.6E 01 -	3.8E 01	2	14	8.70	60.87
3.8E 01 -	5.6E 01	3	17	13.04	73.91
5.6E 01 -	8.3E 01	2	19	8.70	82.61
8.3E 01 -	1.2E 02	0	19	0.0	82.61
1.2E 02 -	1.8E 02	2	21	8.70	91.30

HISTOGRAM FOR COLUMN 16 (CU PPM)

```
5.0E 00 XXXXXXXXXXXXX

7.0E 00

1.0E 01 XXXXXXXXX

1.5E 01 XXXXXXXXX

2.0E 01 XXXXXXXXXXXXXXXXXXXXX

3.0E 01 XXXXXXXXX

5.0E 01 XXXXXXXXXXXXX

7.0E 01 XXXXXXXXX

1.0E 02

1.5E 02 XXXXXXXXX
```

N	L	H	B	T	G	ANALYTICAL VALUES
0	2	0	0	0	0	21
0.0	8.70			0.0	0.0	

MAXIMUM = 1.50000E 02

MINIMUM = 5.00000E 00

GEOMETRIC MEAN = 2.41670E 01

GEOMETRIC DEVIATION = 2.73501E 00

FREQUENCY TABLE FOR COLUMN 17 (LA PPM)

LIMITS LOWER - UPPER	FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
1.8E 01 - 2.6E 01	2	2	8.70	8.70

HISTOGRAM FOR COLUMN 17 (LA PPM)

2.0E 01 XXXXXXXXX

N	L	H	B	T	G	ANALYTICAL VALUES
11	10	0	0	0	0	2
47.83	43.48			0.0	0.0	

MAXIMUM = 2.00000E 01

MINIMUM = 2.00000E 01

GEOMETRIC MEAN = 1.99999E 01

GEOMETRIC DEVIATION = 1.00000E 00

FREQUENCY TABLE FOR COLUMN 18 (MO PPM)

LIMITS LOWER - UPPER	FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
3.8E 00 - 5.6E 00	1	1	4.35	4.35

HISTOGRAM FOR COLUMN 18 (MO PPM)

5.0E 00 XXXX

N	L	H	B	T	G	ANALYTICAL VALUES
2	20	0	0	0	0	1
8.70	86.96			0.0	0.0	

MAXIMUM = 5.00000E 00

MINIMUM = 5.00000E 00

GEOMETRIC MEAN = 5.00000E 00

GEOMETRIC DEVIATION = 9.99900E 48

FREQUENCY TABLE FOR COLUMN 19 (NB PPM)

LIMITS LOWER - UPPER	FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
8.3E 00 - 1.2E 01	20	20	86.96	86.96
1.2E 01 - 1.8E 01	1	21	4.35	91.30

HISTOGRAM FOR COLUMN 19 (NB PPM)

```
1.0E 01 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

1.5E 01 XXXX
```

N	L	H	B	T	G	ANALYTICAL VALUES
0	2	0	0	0	0	21
0.0	8.70			0.0	0.0	

MAXIMUM = 1.50000E 01

MINIMUM = 1.00000E 01

GEOMETRIC MEAN = 1.01948E 01

GEOMETRIC DEVIATION = 1.09266E 00

FREQUENCY TABLE FOR COLUMN 20 (NI 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	1	1	4.35	4.35
8.3E 00 -	1.2E 01	0	1	0.0	4.35
1.2E 01 -	1.8E 01	2	3	8.70	13.04
1.8E 01 -	2.6E 01	0	3	0.0	13.04
2.6E 01 -	3.8E 01	11	14	47.83	60.87
3.8E 01 -	5.6E 01	2	16	8.70	69.57
5.6E 01 -	8.3E 01	4	20	17.39	86.96
8.3E 01 -	1.2E 02	0	20	0.0	86.96
1.2E 02 -	1.8E 02	3	23	13.04	100.00

HISTOGRAM FOR COLUMN 20 (NI PPM)

```
7.0E 00 XXXX

1.0E 01

1.5E 01 XXXXXXXXX

2.0E 01

3.0E 01 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

5.0E 01 XXXXXXXXX

7.0E 01 XXXXXXXXXXXXXXXXX

1.0E 02

1.5E 02 XXXXXXXXXXXXX
```

N	L	H	B	T	G	ANALYTICAL VALUES
0	0	0	0	0	0	23
0.0	0.0			0.0	0.0	

MAXIMUM = 1.50000E 02

MINIMUM = 7.00000E 00

GEOMETRIC MEAN = 3.96203E 01

GEOMETRIC DEVIATION = 2.12276E 00

FREQUENCY TABLE FOR COLUMN 21 (PB PPM)

LIMITS LOWER - UPPER		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
8.3E 00 -	1.2E 01	5	5	21.74	21.74
1.2E 01 -	1.8E 01	3	8	13.04	34.78

HISTOGRAM FOR COLUMN 21 (PB PPM)

```
1.0E 01 XXXXXXXXXXXXXXXXXXXXX

1.5E 01 XXXXXXXXXXXXX
```

N	L	H	B	T	G	ANALYTICAL VALUES
7	8	0	0	0	0	8
30.43	34.78			0.0	0.0	

MAXIMUM = 1.50000E 01

MINIMUM = 1.00000E 01

GEOMETRIC MEAN = 1.16421E 01

GEOMETRIC DEVIATION = 1.23350E 00

FREQUENCY TABLE FOR COLUMN 22 (SB PPM)

LIMITS LOWER - UPPER		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM	
N	L	H	B	T	G	ANALYTICAL VALUES
23	0	0	0	0	0	0
*****	0.0			0.0	0.0	

MAXIMUM = -9.99900E 48

MINIMUM = 9.99900E 48

GEOMETRIC MEAN = 9.99900E 48

GEOMETRIC DEVIATION = 9.99900E 48

FREQUENCY TABLE FOR COLUMN 23 (SC 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	8	8	34.78	34.78
1.8E 01 -	2.6E 01	12	20	52.17	86.96
2.6E 01 -	3.8E 01	3	23	13.04	100.00

HISTOGRAM FOR COLUMN 23 (SC PPM)

```
1.5E 01 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

2.0E 01 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

3.0E 01 XXXXXXXXXXXXX
```

N	L	H	B	T	G	ANALYTICAL VALUES
0	0	0	0	0	0	23
0.0	0.0			0.0	0.0	

MAXIMUM = 3.00000E 01

MINIMUM = 1.50000E 01

GEOMETRIC MEAN = 1.90782E 01

GEOMETRIC DEVIATION = 1.25112E 00

FREQUENCY TABLE FOR COLUMN 24 (SN PPM)

LIMITS LOWER - UPPER		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM	ANALYTICAL VALUES
N	L	H	B	T	G	
23	0	0	0	0	0	0
*****	0.0			0.0	0.0	

MAXIMUM = -9.99900E 48

MINIMUM = 9.99900E 48

GEOMETRIC MEAN = 9.99900E 48

GEOMETRIC DEVIATION = 9.99900E 48

FREQUENCY TABLE FOR COLUMN 25 (SR 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	11	11	47.83	47.83
1.8E 02 -	2.6E 02	4	15	17.39	65.22
2.6E 02 -	3.8E 02	7	22	30.43	95.65

HISTOGRAM FOR COLUMN 25 (SR PPM)

```
1.5E 02 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

2.0E 02 XXXXXXXXXXXXXXXX

3.0E 02 XXXXXXXXXXXXXXXXXXXXXXXXXXXXX
```

N	L	H	B	T	G	ANALYTICAL VALUES
0	1	0	0	0	0	22
0.0	4.35			0.0	0.0	

MAXIMUM = 3.00000E 02

MINIMUM = 1.50000E 02

GEOMETRIC MEAN = 1.97053E 02

GEOMETRIC DEVIATION = 1.36763E 00

FREQUENCY TABLE FOR COLUMN 26 (V 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	4	4	17.39	17.39
1.8E 02 -	2.6E 02	13	17	56.52	73.91
2.6E 02 -	3.8E 02	6	23	26.09	100.00

HISTOGRAM FOR COLUMN 26 (V PPM)

```
1.5E 02 XXXXXXXXXXXXXXXXX

2.0E 02 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

3.0E 02 XXXXXXXXXXXXXXXXXXXXXXXXXX
```

N	L	H	B	T	G	ANALYTICAL VALUES
0	0	0	0	0	0	23
0.0	0.0			0.0	0.0	

MAXIMUM = 3.00000E 02

MINIMUM = 1.50000E 02

GEOMETRIC MEAN = 2.11462E 02

GEOMETRIC DEVIATION = 1.26896E 00

FREQUENCY TABLE FOR COLUMN 27 (W PPM)

LIMITS LOWER - UPPER		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM	
N	L	H	B	T	G	ANALYTICAL VALUES
23	0	0	0	0	0	0
*****	0.0			0.0	0.0	

MAXIMUM = -9.99900E 48

MINIMUM = 9.99900E 48

GEOMETRIC MEAN = 9.99900E 48

GEOMETRIC DEVIATION = 9.99900E 48

FREQUENCY TABLE FOR COLUMN 28 (Y PPM)

LIMITS LOWER - UPPER		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
8.3E 00 -	1.2E 01	4	4	17.39	17.39
1.2E 01 -	1.8E 01	9	13	39.13	56.52
1.8E 01 -	2.6E 01	7	20	30.43	86.96
2.6E 01 -	3.8E 01	3	23	13.04	100.00

HISTOGRAM FOR COLUMN 28 (Y PPM)

```
1.0E 01 XXXXXXXXXXXXXXXXX

1.5E 01 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

2.0E 01 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

3.0E 01 XXXXXXXXXXXXX
```

N	L	H	B	T	G	ANALYTICAL VALUES
0	0	0	0	0	0	23
0.0	0.0			0.0	0.0	

MAXIMUM = 3.00000E 01

MINIMUM = 1.00000E 01

GEOMETRIC MEAN = 1.67013E 01

GEOMETRIC DEVIATION = 1.39263E 00

FREQUENCY TABLE FOR COLUMN 29 (ZN PPM)

LIMITS LOWER - UPPER	FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
1.8E 02 - 2.6E 02	3	3	13.04	13.04

HISTOGRAM FOR COLUMN 29 (ZN PPM)

```
2.0E 02 XXXXXXXXXXXXX
```

N	L	H	B	T	G	ANALYTICAL VALUES
3	17	0	0	0	0	3
13.04	73.91			0.0	0.0	

MAXIMUM = 2.00000E 02

MINIMUM = 2.00000E 02

GEOMETRIC MEAN = 2.00000E 02

GEOMETRIC DEVIATION = 1.00000E 00

FREQUENCY TABLE FOR COLUMN 30 (ZR 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	16	16	69.57	69.57
8.3E 01 -	1.2E 02	3	19	13.04	82.61
1.2E 02 -	1.8E 02	2	21	8.70	91.30
1.8E 02 -	2.6E 02	2	23	8.70	100.00

HISTOGRAM FOR COLUMN 30 (ZR PPM)

```
7.0E 01 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

1.0E 02 XXXXXXXXXXXXX

1.5E 02 XXXXXXXXX

2.0E 02 XXXXXXXXX
```

N	L	H	B	T	G	ANALYTICAL VALUES
0	0	0	0	0	0	23
0.0	0.0			0.0	0.0	

MAXIMUM = 2.00000E 02

MINIMUM = 7.00000E 01

GEOMETRIC MEAN = 8.58473E 01

GEOMETRIC DEVIATION = 1.42778E 00

FREQUENCY TABLE FOR COLUMN 31 (AU PPM)

LIMITS LOWER - UPPER		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM	ANALYTICAL VALUES
N	L	H	B	T	G	
0	23	0	0	0	0	0
0.0	*****			0.0	0.0	

MAXIMUM = -9.99900E 48

MINIMUM = 9.99900E 48

GEOMETRIC MEAN = 9.99900E 48

GEOMETRIC DEVIATION = 9.99900E 48

A470 STATISTICAL SUMMARY DATE 4/24/70

ELEMENT	N	L	H	B	T	G	ANALYTICAL VALUES
FE PCT	0	0	0	0	0	0	23
MG PCT	0	0	0	0	0	0	23
CA PCT	0	0	0	0	0	0	23
TI PCT	0	0	0	0	0	8	15
MN PPM	0	0	0	0	0	1	22
AG PPM	22	1	0	0	0	0	0
AS PPM	22	1	0	0	0	0	0
AU PPM	23	0	0	0	0	0	0
B PPM	1	1	0	0	0	0	21
BA PPM	0	1	0	0	0	0	22
BE PPM	10	8	0	0	0	0	5
BI PPM	22	0	0	0	0	0	0
CD PPM	23	0	0	0	0	0	0
CO PPM	0	0	0	0	0	0	23
CR PPM	0	0	0	0	0	0	23
CU PPM	0	2	0	0	0	0	21
LA PPM	11	10	0	0	0	0	2
MO PPM	2	20	0	0	0	0	1
NB PPM	0	2	0	0	0	0	21
NI PPM	0	0	0	0	0	0	23
PB PPM	7	8	0	0	0	0	8
SB PPM	23	0	0	0	0	0	0
SC PPM	0	0	0	0	0	0	23
SN PPM	23	0	0	0	0	0	0
SR PPM	0	1	0	0	0	0	22
V PPM	0	0	0	0	0	0	23
W PPM	23	0	0	0	0	0	0
Y PPM	0	0	0	0	0	0	23
ZN PPM	3	17	0	0	0	0	3
ZR PPM	0	0	0	0	0	0	23
AU PPM	0	23	0	0	0	0	0

ELEMENT	GEOMETRIC MEAN	GEOMETRIC DEVIATION	REMARKS
FE PCT	7.910512	1.65	23 SAMPLES AND 23 ANALYTICAL VALUES.
MG PCT	1.368324	1.52	23 SAMPLES AND 23 ANALYTICAL VALUES.
CA PCT	1.013503	1.68	23 SAMPLES AND 23 ANALYTICAL VALUES.
TI PCT	********	******	8 GREATER THAN VALUES. NO COMPUTATIONS.
MN PPM	********	******	1 GREATER THAN VALUES. NO COMPUTATIONS.
AG PPM	0	0	23 NOT DETECTED, LESS THAN, OR TRACE VALUES. 0 REPORTED VALUES. NO COMPUTATIONS.
AS PPM	0	0	23 NOT DETECTED, LESS THAN, OR TRACE VALUES. 0 REPORTED VALUES. NO COMPUTATIONS.
AU PPM	0	0	23 NOT DETECTED, LESS THAN, OR TRACE VALUES. 0 REPORTED VALUES. NO COMPUTATIONS.
B PPM	13.172191	1.60	2 NOT DETECTED, LESS THAN, OR TRACE VALUES. 21 REPORTED VALUES.
BA PPM	448.953857	2.51	1 NOT DETECTED, LESS THAN, OR TRACE VALUES. 22 REPORTED VALUES.
BE PPM	0.581616	1.57	18 NOT DETECTED, LESS THAN, OR TRACE VALUES. 5 REPORTED VALUES.
BI PPM	********	******	22 NOT DETECTED, LESS THAN, OR TRACE VALUES. 0 REPORTED VALUES. NO COMPUTATIONS.
CD PPM	********	******	23 NOT DETECTED, LESS THAN, OR TRACE VALUES. 0 REPORTED VALUES. NO COMPUTATIONS.
CO PPM	20.566010	1.48	23 SAMPLES AND 23 ANALYTICAL VALUES.
CR PPM	113.135178	1.71	23 SAMPLES AND 23 ANALYTICAL VALUES.
CU PPM	19.647263	3.26	2 NOT DETECTED, LESS THAN, OR TRACE VALUES. 21 REPORTED VALUES.
LA PPM	********	0	21 NOT DETECTED, LESS THAN, OR TRACE VALUES. 2 REPORTED VALUES. NO COMPUTATIONS.
MO PPM	********	0	22 NOT DETECTED, LESS THAN, OR TRACE VALUES. 1 REPORTED VALUES. NO COMPUTATIONS.
NB PPM	9.969107	1.12	2 NOT DETECTED, LESS THAN, OR TRACE VALUES. 21 REPORTED VALUES.
NI PPM	39.620132	2.12	23 SAMPLES AND 23 ANALYTICAL VALUES.
PB PPM	6.963475	1.60	15 NOT DETECTED, LESS THAN, OR TRACE VALUES. 8 REPORTED VALUES.

SB	PPM	********	******	23 NOT DETECTED, LESS THAN, OR TRACE VALUES.	0 REPORTED VALUES. NO COMPUTATIONS.
SC	PPM	19.078186	1.25	23 SAMPLES AND 23 ANALYTICAL VALUES.	
SN	PPM	********	******	23 NOT DETECTED, LESS THAN, OR TRACE VALUES.	0 REPORTED VALUES. NO COMPUTATIONS.
SR	PPM	188.683548	1.45	1 NOT DETECTED, LESS THAN, OR TRACE VALUES.	22 REPORTED VALUES.
V	PPM	211.461716	1.27	23 SAMPLES AND 23 ANALYTICAL VALUES.	
W	PPM	********	******	23 NOT DETECTED, LESS THAN, OR TRACE VALUES.	0 REPORTED VALUES. NO COMPUTATIONS.
Y	PPM	16.701294	1.39	23 SAMPLES AND 23 ANALYTICAL VALUES.	
ZN	PPM	141.476974	1.22	20 NOT DETECTED, LESS THAN, OR TRACE VALUES.	3 REPORTED VALUES.
ZR	PPM	85.847122	1.43	23 SAMPLES AND 23 ANALYTICAL VALUES.	
AU	PPM	********	******	23 NOT DETECTED, LESS THAN, OR TRACE VALUES.	0 REPORTED VALUES. NO COMPUTATIONS.