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ANALYSES OF ROCK AND STREAM-SEDIMENT SAMPLES FROM THE
SUMDUM A-3 QUADRANGLE, ALASKA

By

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and Raymond Wehr

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INTRODUCTION

Analytical data for 138 rock and 71 stream-sediment samples from the Sumdum A-3, 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 \pm 100 percent. Minimum limits of determination for each element are given on page 7. 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 A-3 quadrangle. (All samples are of representative material.) Sample localities are shown by sample number plotted on the accompanying map, Plate 1.

<u>Sample No.</u>	<u>Lab. No.</u>	<u>Sample Description</u>
1	AKD-578	Biotite hornblende quartz diorite
2	-567	Biotite schist
2	-568	Biotite granodiorite
3	-569	Iron-stained quartz vein
4	-570	Pegmatite
5	-572	Iron-stained migmatite
6	-576	Biotite hornblende quartz diorite
7	-577	Biotite hornblende quartz diorite
8	-573	Pyrrhotite bearing biotite gneiss
8	-574	Pegmatite
9	-584	Biotite hornblende tonalite gneiss
10	-767	Biotite hornblende tonalite gneiss
11	-594	Biotite hornblende quartz diorite
12	-583	Biotite hornblende quartz diorite
13	-595	Biotite hornblende quartz diorite
14	-580	Biotite hornblende quartz diorite
15	-603	Biotite hornblende adamellite
16	-772	Biotite hornblende tonalite gneiss
17	-776	Biotite feldspar schist
18	-581	Aplite dike
18	-582	Foliated biotite hornblende quartz diorite
19	-575	Foliated biotite hornblende quartz diorite
20	-550	Biotite quartz gneiss
20	-551	Iron-stained biotite quartzite
20	-548	Iron-stained biotite quartz schist
20	-549	Iron-stained biotite quartz schist
21	-519	Biotite quartz diorite
22	-527	Pyrite biotite feldspar quartz gneiss
22	-528	Pyrite biotite feldspar quartz gneiss
23	-526	Quartz vein
24	-520	Biotite hornblende quartz diorite
24	-521	Quartz vein
25	-522	Pyritic quartz vein
25	-523	Biotite quartz monzonite dike
26	-524	Hornblende biotite quartz diorite
27	-531	Hornblende biotite quartz diorite
28	-542	Migmatite with pyrite

Table 1.--Description of rock, vein, and altered zone samples from the Sumdum A-3 quadrangle. (All samples are of representative material.) Sample localities are shown by sample number plotted on the accompanying map, Plate 1. --Continued

<u>Sample No.</u>	<u>Lab. No.</u>	<u>Sample Description</u>
28	AKD-543	Pyritic tactite
29	-541	Biotite feldspar quartz gneiss
30	-544	Iron-stained biotite gneiss
30	-545	Iron-stained biotite gneiss
31	-515	Biotite hornblende quartz diorite
33	-513	Biotite hornblende quartz diorite
32	-514	Biotite hornblende quartz diorite
34	-536	Biotite hornblende quartz diorite
35	-525	Biotite hornblende quartz diorite
36	-532	Biotite hornblende quartz diorite
37	-533	Biotite hornblende quartz diorite
38	-534	Biotite hornblende quartz diorite
39	-535	Biotite hornblende quartz diorite
40	-546	Foliated hornblende diorite
41	-547	Biotite gneiss
42	-589	Iron-stained biotite feldspar garnet kyanite schist
42	-590	Kyanite
43	-588	Iron-stained biotite schist
44	-586	Iron-stained garnet kyanite schist
44	-587	Iron-stained garnet kyanite schist
45	-516	Biotite hornblende quartz diorite
46	-538	Biotite hornblende tonalite gneiss
47	-517	Foliated biotite hornblende quartz diorite
48	-540	Biotite hornblende tonalite gneiss
49	-765	Iron-stained biotite hornblende schist
50	-539	Quartz monzonite
51	-518	Biotite granodiorite
52	-692	Biotite garnet hornblende gneiss
52	-693	Biotite garnet hornblende schist
52	-695	Biotite garnet hornblende schist
53	-690	Biotite garnet hornblende schist
53	-691	Biotite garnet hornblende schist
54	-689	Iron-stained quartz vein
54	-694	Iron-stained biotite schist
55	-687	Pyritic iron-stained biotite schist
55	-688	Iron-stained biotite schist
56	-686	Iron-stained pyritic biotite schist
57	-556	Biotite quartz monzonite
58	-557	Foliated biotite quartz monzonite
59	-558	Foliated biotite quartz monzonite

Table 1.--Description of rock, vein, and altered zone samples from the Sumdum A-3 quadrangle. (All samples are of representative material.) Sample localities are shown by sample number plotted on the accompanying map, Plate 1.--Continued

<u>Sample No.</u>	<u>Lab. No.</u>	<u>Sample Description</u>
60	AKD-559	Biotite hornblende diorite
61	-560	Biotite hornblende diorite
62	-561	Biotite hornblende gneiss
63	-562	Foliated biotite quartz monzonite
64	-563	Foliated biotite quartz monzonite
65	-696	Biotite gneiss, iron-stained
65	-697	Silicified biotite gneiss with pyrite
65	-698	Silicified biotite gneiss with pyrite
65	-699	Iron-stained biotite gneiss
66	-700	Iron-stained biotite garnet gneiss
66	-701	Iron-stained biotite garnet gneiss
66	-702	Iron-stained biotite garnet gneiss
67	-483	Biotite hornblende tonalite gneiss
68	-685	Biotite feldspar calcareous silicate schist
69	-684	Biotite garnet schist
70	-683	Biotite garnet schist
71	-484	Biotite granodiorite
72	-477	Biotite hornblende tonalite gneiss
73	-676	Biotite feldspar quartz gneiss
74	-677	Biotite feldspar quartz gneiss
75	-678	Leucocratic granodiorite dike
76	-679	Pyritic biotite hornblende gneiss
77	-598	Sheared biotite hornblende quartz gneiss
78	-597	Sheared biotite hornblende quartz gneiss
79	-476	Biotite garnet gneiss
80	-481	Biotite garnet gneiss
81	-673	Marble
81	-674	Biotite feldspar garnet quartz gneiss
81	-675	Biotite feldspar quartz gneiss
82	-565	Aplite dike
82	-566	Pyritic tactite
83	-564	Biotite feldspar quartz gneiss
84	-479	Iron-stained biotite schist
84	-480	Pegmatite
85	-414	Garnet hornblende gneiss
86	-669	Biotite feldspar quartz gneiss
86	-670	Biotite quartzite
86	-671	Calcareous silicate skarn
86	-672	Biotite hornblende diorite
87	-668	Biotite feldspar quartz gneiss

Table 1.--Description of rock, vein, and altered zone samples from the Sumdum A-3 quadrangle. (All samples are of representative material.) Sample localities are shown by sample number plotted on the accompanying map, Plate 1.--Continued

<u>Sample No.</u>	<u>Lab. No.</u>	<u>Sample Description</u>
88	AKD-478	Biotite feldspar garnet schist
89	-418	Iron-stained garnet gneiss
90	-415	Hornblende gneiss
91	-495	Augen gneiss
92	-713	Biotite gneiss
93	-417	Biotite hornblende schist
94	-416	Pyritic quartz carbonate vein
95	-494	Augen gneiss
96	-493	Augen gneiss
97	-490	Biotite feldspar quartz gneiss (pyritic)
97	-491	Iron-stained and sheared gneiss (pyritic)
98	-489	Biotite feldspar quartz gneiss
99	-712	Biotite feldspar quartz gneiss
100	-709	Biotite feldspar quartz gneiss
101	-711	Biotite feldspar quartz gneiss
102	-710	Biotite feldspar quartz gneiss
103	-714	Biotite quartzite
103	-715	Biotite garnet quartzite
104	-716	Garnet amphibolite
105	-717	Garnet amphibolite
106	-718	Banded marble

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 buckets 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.OE-01 means 7.0×10^{-1} or 0.7

7.OE 00 means 7.0×10^0 or 7.0

7.OE 01 means 7.0×10^1 or 70.0

7.OE 02 means 7.0×10^2 or 700.0

7.OE 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 mean 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.

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- 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. SUNDUM A-3 ROCK SAMPLES

MGP Number	SAMPLE	FE PCT	HG PCT	CA PCT	TI PCT	MN PPM	AG PPM	AS PPM	AU PPM	B PPM	BA PPM
1	AKD578	5.0000	1.5000	3.0000	0.5000	1000.0000	0.0	0.0	0.0	0.0	1500.0000
2	AKD567	5.0000	3.0000	2.0000	0.7000	1000.0000	0.0	0.0	0.0	0.0	300.0000
2	AKD568	5.0000	1.0000	1.5000	0.5000	700.0000	0.0	0.0	0.0	0.0	1500.0000
3	AKD569	1.0000	0.5000	0.0	0.1500	100.0000	0.0	0.0	0.0	50.0000	200.0000
4	AKD570	1.5000	0.1500	0.7000	0.1000	150.0000	0.0	0.0	0.0	0.0	150.0000
5	AKD572	3.0000	0.7000	1.5000	0.2000	700.0000	0.0	0.0	0.0	0.0	500.0000
6	AKD576	3.0000	1.0000	1.5000	0.2000	700.0000	0.0	0.0	0.0	0.0	1500.0000
7	AKD577	5.0000	1.5000	2.0000	0.5000	1000.0000	0.0	0.0	0.0	0.0	150.0000
8	AKD573	10.0000	3.0000	7.0000	0.7000	700.0000	0.0	0.0	0.0	0.0	150.0000
8	AKD574	0.7000	0.1500	0.7000	0.0500	150.0000	0.0	0.0	0.0	0.0	150.0000
9	AKD584	3.0000	1.5000	2.0000	0.3000	300.0000	0.0	0.0	0.0	0.0	1500.0000
10	AKD767	7.0000	1.5000	0.2000	0.1500	150.0000	0.0	0.0	0.0	0.0	3000.0000
11	AKD594	3.0000	2.0000	3.0000	0.5000	1000.0000	0.0	0.0	0.0	0.0	700.0000
12	AKD583	5.0000	1.5000	2.0000	0.3000	1000.0000	0.0	0.0	0.0	0.0	700.0000
13	AKD595	5.0000	2.0000	2.0000	0.5000	1000.0000	0.0	0.0	0.0	0.0	1000.0000
14	AKD580	5.0000	2.0000	2.0000	0.3000	1000.0000	0.0	0.0	0.0	0.0	700.0000
15	AKD603	2.0000	1.0000	1.5000	0.3000	1000.0000	0.0	0.0	0.0	0.0	2000.0000
15	AKD772	15.0000	3.0000	3.0000	0.7000	1500.0000	0.0	0.0	0.0	10.0000	700.0000
16	AKD776	0.7000	0.2000	1.0000	0.0200	150.0000	0.0	0.0	0.0	0.0	100.0000
17	AKD581	0.5000	0.1000	0.7000	0.0300	70.0000	0.0	0.0	0.0	0.0	1000.0000
18	AKD582	5.0000	1.5000	1.5000	0.3000	700.0000	0.0	0.0	0.0	0.0	500.0000
18	AKD575	3.0000	1.0000	1.0000	0.2000	500.0000	0.0	0.0	0.0	0.0	1000.0000
19	AKD548	1.5000	0.3000	0.3000	0.3000	100.0000	0.0	0.0	0.0	0.0	1000.0000
20	AKD549	3.0000	0.7000	1.5000	0.2000	200.0000	0.0	0.0	0.0	0.0	150.0000
20	AKD550	7.0000	1.0000	1.0000	0.3000	300.0000	0.0	0.0	0.0	0.0	700.0000
20	AKD551	5.0000	2.0000	0.7000	0.7000	300.0000	0.0	0.0	0.0	0.0	700.0000
20	AKD519	3.0000	1.5000	2.0000	0.3000	1000.0000	0.0	0.0	0.0	0.0	700.0000
21	AKD527	2.0000	0.7000	1.0000	0.3000	200.0000	0.0	0.0	0.0	0.0	700.0000
22	AKD528	3.0000	0.7000	2.0000	0.3000	700.0000	0.0	0.0	0.0	0.0	150.0000
23	AKD526	1.0000	0.3000	0.0700	0.0700	150.0000	0.0	0.0	0.0	0.0	150.0000
24	AKD520	3.0000	1.5000	2.0000	0.5000	700.0000	0.0	0.0	0.0	0.0	1000.0000
24	AKD521	10.0000	3.0000	2.0000	0.5000	1000.0000	0.0	0.0	0.0	0.0	1000.0000
25	AKD522	2.0000	0.0200	0.0700	0.0150	70.0000	0.0	0.0	0.0	0.0	150.0000
25	AKD523	1.0000	0.3000	1.5000	0.0700	150.0000	0.0	0.0	0.0	0.0	150.0000
26	AKD524	5.0000	3.0000	3.0000	0.5000	1000.0000	0.0	0.0	0.0	0.0	700.0000
27	AKD531	7.0000	3.0000	5.0000	0.5000	1500.0000	0.0	0.0	0.0	0.0	1000.0000
27	AKD542	5.0000	1.0000	3.0000	0.3000	1500.0000	0.0	0.0	0.0	0.0	1000.0000
28	AKD543	10.0000	3.0000	20.0000	0.5000	1500.0000	0.0	0.0	0.0	0.0	1000.0000
28	AKD541	3.0000	2.0000	2.0000	0.3000	1000.0000	0.0	0.0	0.0	0.0	500.0000
30	AKD544	10.0000	3.0000	1.5000	0.5000	1500.0000	0.0	0.0	0.0	0.0	300.0000
30	AKD545	7.0000	2.0000	3.0000	0.5000	500.0000	0.0	0.0	0.0	0.0	1500.0000
31	AKD515	5.0000	1.5000	3.0000	0.3000	700.0000	0.0	0.0	0.0	0.0	1000.0000
32	AKD514	5.0000	1.5000	2.0000	0.3000	700.0000	0.0	0.0	0.0	0.0	1000.0000
33	AKD513	7.0000	2.0000	2.0000	0.5000	700.0000	0.0	0.0	0.0	0.0	700.0000
34	AKD536	5.0000	2.0000	2.0000	0.7000	700.0000	0.0	0.0	0.0	0.0	1500.0000
35	AKD525	5.0000	1.0000	2.0000	0.5000	700.0000	0.0	0.0	0.0	0.0	1500.0000
36	AKD532	3.0000	2.0000	3.0000	0.5000	700.0000	0.0	0.0	0.0	0.0	1000.0000
37	AKD533	1.5000	0.2000	0.7000	0.0700	700.0000	0.0	0.0	0.0	0.0	1500.0000
37	AKD534	3.0000	1.5000	2.0000	0.3000	1000.0000	0.0	0.0	0.0	0.0	1500.0000
38	AKD535	5.0000	2.0000	3.0000	0.5000	1000.0000	0.0	0.0	0.0	0.0	1500.0000

SUMDUM A-3 ROCK SAMPLES

SAMPLE	BE PPM	BI PPM	CD PPM	CE PPM	CR PPM	CU PPM	LA PPM	MD PPM	NB PPM	NE PPM
1	AKD578	1.0000	0.0	0.0	5.0000	10.0000	0.0	0.0	10.0000	0.0
2	AKD567	0.0	0.0	20.0000	20.0000	5.0000	0.0	0.0	10.0000	20.0000
3	AKD568	1.0000	0.0	0.0	0.0	0.0	100.0000	0.0	10.0000	0.0
4	AKD569	0.0	0.0	0.0	10.0000	7.0000	0.0	0.0	0.0	5.0000
5	AKD570	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6	AKD571	1.5000	0.0	0.0	5.0000	0.0	70.0000	5.0000	0.0	10.0000
7	AKD572	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8	AKD573	0.0	0.0	0.0	10.0000	5.0000	20.0000	0.0	0.0	0.0
9	AKD574	1.0000	0.0	0.0	30.0000	100.0000	0.0	0.0	10.0000	0.0
10	AKD584	0.0	0.0	0.0	0.0	0.0	20.0000	0.0	0.0	5.0000
11	AKD767	0.0	0.0	0.0	7.0000	15.0000	20.0000	0.0	0.0	15.0000
12	AKD594	1.0000	0.0	0.0	0.0	0.0	150.0000	5.0000	30.0000	5.0000
13	AKD583	0.0	0.0	0.0	15.0000	0.0	0.0	0.0	10.0000	0.0
14	AKD595	1.0000	0.0	0.0	15.0000	0.0	0.0	0.0	0.0	5.0000
15	AKD580	0.0	0.0	0.0	10.0000	5.0000	0.0	0.0	10.0000	0.0
16	AKD603	1.5000	0.0	0.0	10.0000	5.0000	0.0	0.0	0.0	0.0
17	AKD772	0.0	0.0	0.0	30.0000	5.0000	100.0000	0.0	10.0000	15.0000
18	AKD776	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
19	AKD581	1.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20	AKD582	0.0	0.0	0.0	5.0000	7.0000	0.0	0.0	0.0	0.0
21	AKD575	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
22	AKD548	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
23	AKD549	1.0000	0.0	0.0	0.0	50.0000	50.0000	0.0	0.0	30.0000
24	AKD550	1.0000	0.0	0.0	0.0	70.0000	0.0	0.0	10.0000	30.0000
25	AKD551	1.5000	0.0	0.0	20.0000	70.0000	0.0	5.0000	10.0000	100.0000
26	AKD519	1.0000	0.0	0.0	20.0000	150.0000	0.0	0.0	10.0000	70.0000
27	AKD527	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
28	AKD528	1.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
29	AKD526	0.0	0.0	0.0	0.0	50.0000	0.0	0.0	0.0	10.0000
30	AKD520	0.0	0.0	0.0	0.0	50.0000	0.0	0.0	0.0	10.0000
31	AKD521	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
32	AKD522	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
33	AKD523	0.0	0.0	0.0	0.0	300.0000	0.0	0.0	10.0000	15.0000
34	AKD524	1.0000	0.0	0.0	15.0000	15.0000	0.0	0.0	0.0	0.0
35	AKD531	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
36	AKD542	0.0	0.0	0.0	15.0000	5.0000	0.0	0.0	10.0000	5.0000
37	AKD543	0.0	0.0	0.0	15.0000	5.0000	0.0	0.0	10.0000	5.0000
38	AKD544	1.1500	0.0	0.0	0.0	150.0000	0.0	0.0	10.0000	0.0
39	AKD541	1.0000	0.0	0.0	20.0000	70.0000	0.0	0.0	0.0	30.0000
40	AKD544	0.0	0.0	0.0	7.0000	150.0000	0.0	0.0	0.0	30.0000
41	AKD545	0.0	0.0	0.0	20.0000	20.0000	0.0	0.0	0.0	30.0000
42	AKD545	0.0	0.0	0.0	15.0000	30.0000	0.0	0.0	0.0	15.0000
43	AKD515	0.0	0.0	0.0	10.0000	10.0000	0.0	0.0	10.0000	10.0000
44	AKD514	0.0	0.0	0.0	10.0000	10.0000	0.0	0.0	0.0	10.0000
45	AKD513	1.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.0000
46	AKD536	0.0	0.0	0.0	10.0000	10.0000	30.0000	0.0	10.0000	7.0000
47	AKD525	0.0	0.0	0.0	20.0000	10.0000	0.0	0.0	0.0	5.0000
48	AKD532	0.0	0.0	0.0	5.0000	30.0000	0.0	0.0	0.0	5.0000
49	AKD533	0.0	0.0	0.0	10.0000	5.0000	0.0	0.0	0.0	0.0
50	AKD534	0.0	0.0	0.0	7.0000	0.0	0.0	0.0	0.0	0.0
51	AKD535	0.0	0.0	0.0	10.0000	10.0000	0.0	0.0	0.0	10.0000

SUMDUM A-3 ROCK SAMPLES

SAMPLE	PB PPM	SB PPM	SC PPM	SN PPM	SR PPM	V PPM	H PPM	Y PPM	ZN PPM	ZR PPM
1	AKD578	10.0000	0.0	N	1000.0000	150.0000	0.0	15.0000	0.0	30.0000
2	AKD567	10.0000	0.0	N	500.0000	200.0000	0.0	15.0000	0.0	30.0000
2	AKD568	30.0000	0.0	N	1500.0000	50.0000	0.0	10.0000	0.0	300.0000
3	AKD569	15.0000	0.0	N	0.0	30.0000	0.0	0.0	0.0	70.0000
4	AKD570	30.0000	0.0	N	500.0000	15.0000	0.0	0.0	0.0	70.0000
5	AKD572	0.0	0.0	N	200.0000	100.0000	0.0	15.0000	0.0	20.0000
6	AKD576	10.0000	0.0	N	700.0000	150.0000	0.0	0.0	0.0	50.0000
7	AKD577	15.0000	0.0	N	700.0000	150.0000	0.0	15.0000	0.0	70.0000
8	AKD573	0.0	0.0	N	300.0000	300.0000	0.0	20.0000	0.0	70.0000
8	AKD574	50.0000	0.0	N	150.0000	15.0000	0.0	10.0000	0.0	100.0000
9	AKD584	20.0000	0.0	N	700.0000	100.0000	0.0	10.0000	0.0	100.0000
10	AKD767	0.0	0.0	N	0.0	15.0000	0.0	10.0000	0.0	300.0000
11	AKD594	20.0000	0.0	N	700.0000	150.0000	0.0	15.0000	0.0	70.0000
12	AKD583	15.0000	0.0	N	1000.0000	150.0000	0.0	15.0000	0.0	100.0000
13	AKD595	15.0000	0.0	N	700.0000	150.0000	0.0	15.0000	0.0	50.0000
14	AKD580	15.0000	0.0	N	700.0000	150.0000	0.0	15.0000	0.0	70.0000
15	AKD603	30.0000	0.0	N	1500.0000	70.0000	0.0	10.0000	0.0	100.0000
16	AKD712	10.0000	0.0	N	500.0000	300.0000	0.0	20.0000	0.0	100.0000
17	AKD776	15.0000	0.0	N	0.0	20.0000	0.0	0.0	0.0	0.0
18	AKD581	50.0000	0.0	N	150.0000	15.0000	0.0	0.0	0.0	50.0000
18	AKD582	10.0000	0.0	N	700.0000	150.0000	0.0	10.0000	0.0	150.0000
19	AKD575	30.0000	0.0	N	300.0000	70.0000	0.0	0.0	0.0	50.0000
20	AKD548	0.0	0.0	N	5.0000	300.0000	0.0	20.0000	0.0	70.0000
20	AKD549	0.0	0.0	N	5.0000	300.0000	0.0	20.0000	0.0	70.0000
20	AKD550	30.0000	0.0	N	7.0000	300.0000	0.0	20.0000	0.0	100.0000
20	AKD551	30.0000	0.0	N	15.0000	200.0000	0.0	15.0000	0.0	100.0000
21	AKD519	15.0000	0.0	N	100.0000	150.0000	0.0	20.0000	0.0	300.0000
21	AKD527	10.0000	0.0	N	700.0000	150.0000	0.0	15.0000	0.0	70.0000
22	AKD528	10.0000	0.0	N	10.0000	50.0000	0.0	30.0000	0.0	70.0000
23	AKD526	0.0	0.0	N	200.0000	50.0000	0.0	10.0000	0.0	70.0000
24	AKD520	10.0000	0.0	N	0.0	30.0000	0.0	0.0	0.0	0.0
24	AKD521	20.0000	0.0	N	700.0000	150.0000	0.0	10.0000	0.0	30.0000
25	AKD522	0.0	0.0	N	15.0000	200.0000	0.0	15.0000	0.0	300.0000
25	AKD523	0.0	0.0	N	0.0	15.0000	0.0	0.0	0.0	0.0
26	AKD524	20.0000	0.0	N	700.0000	15.0000	0.0	0.0	0.0	50.0000
27	AKD531	10.0000	0.0	N	1000.0000	200.0000	0.0	20.0000	0.0	50.0000
28	AKD542	20.0000	0.0	N	1000.0000	200.0000	0.0	20.0000	0.0	50.0000
28	AKD543	10.0000	0.0	N	200.0000	30.0000	0.0	10.0000	0.0	70.0000
29	AKD541	0.0	0.0	N	3000.0000	70.0000	0.0	20.0000	0.0	100.0000
30	AKD544	10.0000	0.0	N	150.0000	150.0000	0.0	20.0000	0.0	100.0000
30	AKD545	10.0000	0.0	N	300.0000	300.0000	0.0	15.0000	0.0	70.0000
31	AKD515	15.0000	0.0	N	70.0000	150.0000	0.0	10.0000	0.0	50.0000
32	AKD514	10.0000	0.0	N	700.0000	100.0000	0.0	10.0000	0.0	70.0000
33	AKD513	20.0000	0.0	N	500.0000	150.0000	0.0	20.0000	0.0	70.0000
34	AKD536	15.0000	0.0	N	700.0000	300.0000	0.0	10.0000	0.0	300.0000
35	AKD525	20.0000	0.0	N	1000.0000	100.0000	0.0	15.0000	0.0	100.0000
36	AKD532	10.0000	0.0	N	700.0000	200.0000	0.0	0.0	0.0	70.0000
37	AKD533	50.0000	0.0	N	300.0000	15.0000	0.0	10.0000	0.0	70.0000
38	AKD534	15.0000	0.0	N	700.0000	150.0000	0.0	15.0000	0.0	100.0000
39	AKD535	10.0000	0.0	N	20.0000	200.0000	0.0	15.0000	0.0	50.0000

SUMDUM A-3 ROCK SAMPLES

	SAMPLE	AU PPM
1	AKD578	0.0200L
2	AKD567	0.0200L
2	AKD568	0.0200L
3	AKD569	0.0200L
4	AKD570	0.0200L
5	AKD572	0.0200L
6	AKD576	0.0200L
7	AKD577	0.0200L
8	AKD573	0.0200L
8	AKD574	0.0200L
9	AKD584	0.0200L
10	AKD767	0.0200L
11	AKD594	0.0200L
12	AKD583	0.0200L
13	AKD595	0.0200L
14	AKD580	0.0200L
15	AKD603	0.0200L
16	AKD772	0.0200L
17	AKD776	0.7000
18	AKD581	0.0200L
18	AKD582	0.0200L
19	AKD575	0.0200L
20	AKD548	0.0200L
20	AKD549	0.0200L
20	AKD550	0.0200L
20	AKD551	0.0200L
21	AKD519	0.0200L
22	AKD527	0.0200L
22	AKD528	0.0200L
23	AKD526	0.0200L
24	AKD520	0.0200L
24	AKD521	0.0200L
25	AKD522	0.0200L
25	AKD523	0.0200L
26	AKD524	0.0200L
27	AKD531	0.0200L
28	AKD542	0.0200L
28	AKD543	0.0200L
29	AKD541	0.0200L
30	AKD544	0.0200L
30	AKD545	0.0200L
31	AKD515	0.0200L
32	AKD514	0.0200L
33	AKD513	0.0200L
34	AKD536	0.0200L
35	AKD525	0.0200L
36	AKD532	0.0200L
37	AKD533	0.0200L
38	AKD534	0.0200L
39	AKD535	0.0200L

SUMMUM A-3 ROCK SAMPLES

MRP Number	SAMPLE	FE PCT	MG PCT	CA PCT	TI PCT	MN PPM	AG PPM	AS PPM	AU PPM	B PPM	BA PPM
40	AKD546	15.0000	3.0000	3.0000	0.7000	1000.0000	0.0	0.0	0.0	0.0	1500.0000
41	AKD547	15.0000	2.0000	2.0000	0.5000	1000.0000	0.0	0.0	0.0	0.0	300.0000
42	AKD589	3.0000	1.0000	0.7000	0.3000	150.0000	0.0	0.0	0.0	0.0	700.0000
43	AKD588	7.0000	2.0000	0.3000	0.7000	200.0000	0.0	0.0	0.0	0.0	1500.0000
44	AKD586	7.0000	2.0000	1.0000	0.3000	300.0000	0.0	0.0	0.0	0.0	3000.0000
45	AKD587	5.0000	1.5000	1.5000	0.5000	500.0000	0.0	0.0	0.0	0.0	1500.0000
46	AKD516	5.0000	1.5000	1.0000	0.3000	300.0000	0.0	0.0	0.0	70.0000	1500.0000
47	AKD538	2.0000	2.0000	3.0000	0.5000	1000.0000	0.0	0.0	0.0	0.0	1000.0000
48	AKD517	2.0000	0.7000	1.0000	0.1500	200.0000	0.0	0.0	0.0	0.0	300.0000
49	AKD540	15.0000	5.0000	5.0000	0.7000	1500.0000	0.0	0.0	0.0	10.0000	1500.0000
50	AKD765	7.0000	3.0000	0.0	0.1500	1000.0000	0.0	0.0	0.0	0.0	700.0000
51	AKD539	1.5000	0.3000	0.7000	0.1000	50.0000	1.5000	0.0	0.0	15.0000	300.0000
52	AKD518	3.0000	1.5000	2.0000	0.3000	200.0000	0.0	0.0	0.0	0.0	1500.0000
53	AKD692	15.0000	3.0000	2.0000	0.7000	700.0000	0.0	0.0	0.0	0.0	1500.0000
54	AKD693	7.0000	1.5000	1.5000	0.5000	1000.0000	0.0	0.0	0.0	10.0000	1500.0000
55	AKD695	7.0000	1.5000	1.0000	0.5000	300.0000	0.0	0.0	0.0	0.0	1500.0000
56	AKD690	3.0000	1.0000	1.0000	0.3000	300.0000	0.5000	0.0	0.0	0.0	3000.0000
57	AKD691	5.0000	2.0000	1.5000	0.3000	1000.0000	0.0	0.0	0.0	0.0	500.0000
58	AKD689	20.0000G	0.7000	0.3000	0.3000	70.0000	0.0	0.0	0.0	15.0000	300.0000
59	AKD694	20.0000G	0.7000	0.7000	0.3000	300.0000	0.0	0.0	0.0	0.0	700.0000
60	AKD687	7.0000	1.5000	0.7000	0.5000	500.0000	0.0	0.0	0.0	0.0	1500.0000
61	AKD688	15.0000	1.5000	0.7000	0.7000	300.0000	0.0	0.0	0.0	0.0	1000.0000
62	AKD686	5.0000	2.0000	3.0000	0.3000	700.0000	0.7000	0.0	0.0	0.0	1500.0000
63	AKD556	2.0000	0.7000	1.5000	0.1500	300.0000	0.0	0.0	0.0	0.0	2000.0000
64	AKD557	5.0000	1.5000	2.0000	0.5000	700.0000	0.0	0.0	0.0	0.0	1000.0000
65	AKD558	3.0000	0.7000	5.0000	0.3000	300.0000	0.0	0.0	0.0	0.0	700.0000
66	AKD559	15.0000	3.0000	3.0000	0.7000	1500.0000	0.0	0.0	0.0	0.0	1500.0000
67	AKD560	5.0000	3.0000	3.0000	0.5000	1500.0000	0.0	0.0	0.0	0.0	1500.0000
68	AKD561	5.0000	1.0000	2.0000	0.3000	700.0000	0.0	0.0	0.0	0.0	1500.0000
69	AKD562	1.5000	0.3000	0.7000	0.2000	200.0000	0.0	0.0	0.0	0.0	1000.0000
70	AKD563	3.0000	0.7000	1.5000	0.5000	1000.0000	0.0	0.0	0.0	0.0	500.0000
71	AKD696	20.0000	3.0000	0.1500	0.2000	500.0000	7.0000	0.0	0.0	0.0	1500.0000
72	AKD697	1.5000	0.5000	1.5000	0.0700	100.0000	0.0	0.0	0.0	0.0	150.0000
73	AKD698	20.0000	3.0000	0.1500	0.2000	500.0000	3.0000	0.0	0.0	0.0	500.0000
74	AKD699	3.0000	0.7000	2.0000	0.2000	500.0000	0.0	0.0	0.0	0.0	200.0000
75	AKD700	5.0000	1.5000	5.0000	0.5000	1500.0000	0.0	0.0	0.0	0.0	150.0000
76	AKD701	7.0000	1.5000	1.5000	0.3000	1000.0000	0.0	0.0	0.0	0.0	300.0000
77	AKD702	3.0000	1.0000	0.5000	0.3000	300.0000	0.0	0.0	0.0	0.0	1000.0000
78	AKD483	5.0000	2.0000	1.5000	0.7000	700.0000	0.0	0.0	0.0	0.0	1000.0000
79	AKD685	7.0000	3.0000	5.0000	0.5000	1000.0000	0.5000	0.0	0.0	0.0	300.0000
80	AKD684	5.0000	1.0000	1.5000	0.3000	700.0000	0.0	0.0	0.0	0.0	300.0000
81	AKD484	7.0000	1.5000	0.7000	0.0700	300.0000	0.0	0.0	0.0	0.0	1500.0000
82	AKD477	0.7000	0.0700	0.7000	0.0700	300.0000	0.0	0.0	0.0	0.0	1500.0000
83	AKD616	15.0000	3.0000	3.0000	1.0000	1500.0000	0.0	0.0	0.0	0.0	1000.0000
84	AKD617	5.0000	2.0000	2.0000	0.5000	500.0000	0.0	0.0	0.0	0.0	1500.0000
85	AKD677	3.0000	1.0000	1.5000	0.3000	500.0000	0.0	0.0	0.0	0.0	1500.0000
86	AKD678	1.0000	1.0000	0.7000	0.0700	300.0000	0.0	0.0	0.0	0.0	1500.0000
87	AKD679	15.0000	7.0000	3.0000	0.7000	1500.0000	0.0	0.0	0.0	0.0	300.0000
88	AKD598	7.0000	7.0000	3.0000	0.7000	700.0000	0.0	0.0	0.0	0.0	200.0000

SUMDUM A-3 ROCK SAMPLES

SAMPLE	BE PPM	BI PPM	CD PPM	CO PPM	CR PPM	CU PPM	LA PPM	MD PPM	NB PPM	NI PPM
40 AKD546	0.0 L	0.0 N	0.0 N	20.0000	30.0000	0.0 L	0.0 N	0.0 N	10.0000	15.0000
41 AKD547	0.0 N	0.0 N	0.0 N	5.0000	10.0000	150.0000	0.0 N	0.0 L	10.0000	0.0 L
42 AKD589	0.0 L	0.0 N	0.0 N	0.0 N	20.0000	15.0000	0.0 L	0.0 L	0.0 L	5.0000
43 AKD590	0.0 N	0.0 N	0.0 N	10.0000	150.0000	70.0000	0.0 N	0.0 L	10.0000	15.0000
44 AKD588	0.0 L	0.0 N	0.0 N	0.0 N	70.0000	30.0000	50.0000	0.0 L	10.0000	7.0000
45 AKD586	0.0 L	0.0 N	0.0 N	0.0 N	70.0000	30.0000	30.0000	5.0000	10.0000	10.0000
46 AKD587	0.0 L	0.0 N	0.0 N	0.0 N	70.0000	30.0000	0.0 L	5.0000	10.0000	10.0000
47 AKD516	0.0 N	0.0 N	0.0 N	15.0000	10.0000	10.0000	0.0 N	0.0 N	0.0 L	7.0000
48 AKD538	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 L
49 AKD517	0.0 L	0.0 N	0.0 N	20.0000	15.0000	0.0 L	20.0000	0.0 L	0.0 L	15.0000
50 AKD540	0.0 L	0.0 N	0.0 N	30.0000	30.0000	15.0000	70.0000	0.0 L	10.0000	20.0000
51 AKD765	0.0 N	0.0 N	0.0 N	0.0 N	10.0000	20.0000	150.0000	7.0000	30.0000	7.0000
52 AKD539	0.0 N	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
53 AKD518	1.0000	0.0 N	0.0 N	10.0000	10.0000	0.0 L	0.0 L	0.0 N	0.0 L	0.0 L
54 AKD692	0.0 N	0.0 N	0.0 N	30.0000	150.0000	150.0000	0.0 N	0.0 L	0.0 L	5.0000
55 AKD693	0.0 L	0.0 N	0.0 N	7.0000	70.0000	70.0000	0.0 N	0.0 L	10.0000	70.0000
56 AKD695	0.0 N	0.0 N	0.0 N	0.0 L	70.0000	30.0000	0.0 N	7.0000	10.0000	15.0000
57 AKD690	0.0 N	0.0 N	0.0 N	5.0000	70.0000	20.0000	0.0 L	7.0000	10.0000	20.0000
58 AKD691	0.0 N	0.0 N	0.0 N	20.0000	50.0000	20.0000	0.0 L	10.0000	10.0000	20.0000
59 AKD689	0.0 N	0.0 N	0.0 N	0.0 N	20.0000	30.0000	0.0 M	0.0 L	10.0000	15.0000
60 AKD694	0.0 L	0.0 N	0.0 N	0.0 N	20.0000	150.0000	0.0 L	5.0000	10.0000	0.0 L
61 AKD687	0.0 N	0.0 N	0.0 N	0.0 L	50.0000	70.0000	0.0 N	15.0000	10.0000	5.0000
62 AKD688	0.0 N	0.0 N	0.0 N	15.0000	50.0000	70.0000	0.0 L	5.0000	10.0000	30.0000
63 AKD686	0.0 L	0.0 N	0.0 N	0.0 L	150.0000	50.0000	0.0 M	15.0000	0.0 L	30.0000
64 AKD556	1.0000	0.0 N	0.0 N	0.0 L	10.0000	0.0 L	30.0000	0.0 N	10.0000	5.0000
65 AKD557	1.0000	0.0 N	0.0 N	7.0000	20.0000	0.0 L	20.0000	0.0 N	10.0000	5.0000
66 AKD558	1.0000	0.0 N	0.0 N	0.0 L	10.0000	5.0000	0.0 L	0.0 N	0.0 L	0.0 L
67 AKD559	1.0000	0.0 N	0.0 N	20.0000	50.0000	30.0000	0.0 L	0.0 N	10.0000	20.0000
68 AKD560	1.0000	0.0 N	0.0 N	10.0000	20.0000	15.0000	0.0 L	0.0 N	10.0000	10.0000
69 AKD561	1.0000	0.0 N	0.0 N	5.0000	15.0000	15.0000	0.0 L	0.0 N	10.0000	7.0000
70 AKD562	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
71 AKD563	1.5000	0.0 N	0.0 N	0.0 L	10.0000	0.0 L	70.0000	0.0 N	0.0 L	0.0 L
72 AKD696	0.0 N	0.0 N	20.0000	30.0000	150.0000	1000.0000	0.0 M	10.0000	0.0 L	70.0000
73 AKD697	1.0000	0.0 N	0.0 N	5.0000	0.0 L	150.0000	0.0 N	0.0 N	10.0000	20.0000
74 AKD698	1.5000	0.0 N	0.0 N	0.0 L	150.0000	2000.0000	0.0 N	15.0000	0.0 L	50.0000
75 AKD699	0.0 L	0.0 N	0.0 N	0.0 L	0.0 L	30.0000	0.0 L	0.0 N	10.0000	0.0 L
76 AKD700	1.0000	0.0 N	0.0 N	10.0000	70.0000	50.0000	0.0 L	0.0 L	10.0000	30.0000
77 AKD701	0.0 N	0.0 N	0.0 N	15.0000	0.0 L	20.0000	0.0 N	0.0 M	10.0000	0.0 L
78 AKD702	0.0 N	0.0 N	0.0 N	7.0000	30.0000	70.0000	70.0000	7.0000	10.0000	15.0000
79 AKD483	0.0 N	0.0 N	0.0 N	20.0000	15.0000	5.0000	0.0 N	0.0 N	10.0000	15.0000
80 AKD685	0.0 L	0.0 N	0.0 N	20.0000	150.0000	70.0000	20.0000	0.0 L	10.0000	70.0000
81 AKD684	0.0 N	0.0 N	0.0 N	0.0 N	70.0000	200.0000	0.0 M	15.0000	0.0 L	0.0 L
82 AKD683	0.0 L	0.0 N	0.0 N	0.0 L	70.0000	30.0000	0.0 N	5.0000	10.0000	15.0000
83 AKD484	0.0 L	0.0 N	0.0 N	0.0 N	0.0 L	0.0 L	0.0 M	0.0 N	0.0 L	0.0 L
84 AKD477	0.0 N	0.0 N	0.0 N	30.0000	50.0000	7.0000	0.0 L	0.0 L	10.0000	20.0000
85 AKD676	1.5000	0.0 N	0.0 N	15.0000	15.0000	15.0000	20.0000	0.0 N	10.0000	5.0000
86 AKD677	0.0 L	0.0 N	0.0 N	7.0000	20.0000	0.0 L	30.0000	0.0 N	10.0000	0.0 L
87 AKD678	0.0 L	0.0 N	0.0 N	0.0 L	10.0000	0.0 L	0.0 M	0.0 N	0.0 L	0.0 L
88 AKD679	0.0 L	0.0 N	0.0 N	150.0000	70.0000	100.0000	0.0 L	0.0 L	10.0000	100.0000
89 AKD598	0.0 N	0.0 N	0.0 N	50.0000	300.0000	150.0000	0.0 M	0.0 N	10.0000	50.0000

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SUNDBUM A-3 ROCK SAMPLES

	SAMPLE	PH PPM	SB PPM	SC PPM	SN PPM	SR PPM	V PPM	W PPM	Y PPM	ZN PPM	ZR PPM
40	AKD546	10.0000	0.0	20.0000	0.0	1000.0000	200.0000	0.0	20.0000	0.0	70.0000
41	AKD547	15.0000	0.0	30.0000	0.0	150.0000	300.0000	0.0	20.0000	0.0	70.0000
42	AKD589	0.0	0.0	7.0000	0.0	150.0000	300.0000	0.0	10.0000	0.0	70.0000
43	AKD590	0.0	0.0	30.0000	0.0	100.0000	300.0000	0.0	20.0000	0.0	150.0000
44	AKD588	0.0	0.0	20.0000	0.0	300.0000	300.0000	0.0	30.0000	0.0	70.0000
45	AKD587	30.0000	0.0	15.0000	0.0	300.0000	200.0000	0.0	0.0	0.0	70.0000
46	AKD516	50.0000	0.0	20.0000	0.0	500.0000	200.0000	0.0	20.0000	0.0	70.0000
47	AKD538	30.0000	0.0	0.0	0.0	700.0000	30.0000	0.0	10.0000	0.0	200.0000
48	AKD540	20.0000	0.0	30.0000	0.0	1000.0000	200.0000	0.0	20.0000	0.0	50.0000
49	AKD165	50.0000	0.0	0.0	0.0	700.0000	300.0000	0.0	20.0000	0.0	70.0000
50	AKD539	30.0000	0.0	0.0	0.0	0.0	15.0000	0.0	0.0	0.0	1000.0000
51	AKD518	15.0000	0.0	0.0	0.0	300.0000	20.0000	0.0	0.0	0.0	70.0000
52	AKD692	0.0	0.0	15.0000	0.0	700.0000	150.0000	0.0	15.0000	0.0	70.0000
53	AKD693	0.0	0.0	20.0000	0.0	300.0000	500.0000	0.0	20.0000	0.0	100.0000
54	AKD695	0.0	0.0	15.0000	0.0	200.0000	300.0000	0.0	15.0000	0.0	100.0000
55	AKD690	0.0	0.0	15.0000	0.0	200.0000	700.0000	0.0	15.0000	0.0	100.0000
56	AKD691	0.0	0.0	15.0000	0.0	300.0000	150.0000	0.0	15.0000	0.0	150.0000
57	AKD689	0.0	0.0	10.0000	0.0	0.0	150.0000	0.0	15.0000	0.0	70.0000
58	AKD694	10.0000	0.0	15.0000	0.0	200.0000	150.0000	0.0	15.0000	0.0	100.0000
59	AKD687	15.0000	0.0	15.0000	0.0	200.0000	200.0000	0.0	15.0000	0.0	100.0000
60	AKD688	15.0000	0.0	15.0000	0.0	150.0000	200.0000	0.0	15.0000	0.0	100.0000
61	AKD686	10.0000	0.0	15.0000	0.0	200.0000	300.0000	0.0	20.0000	0.0	70.0000
62	AKD556	70.0000	0.0	0.0	0.0	700.0000	15.0000	0.0	10.0000	0.0	100.0000
63	AKD557	30.0000	0.0	0.0	0.0	700.0000	150.0000	0.0	0.0	0.0	150.0000
64	AKD558	30.0000	0.0	0.0	0.0	1500.0000	50.0000	0.0	0.0	0.0	150.0000
65	AKD559	10.0000	0.0	30.0000	0.0	1000.0000	300.0000	0.0	20.0000	0.0	50.0000
66	AKD560	15.0000	0.0	20.0000	0.0	1000.0000	150.0000	0.0	30.0000	0.0	50.0000
67	AKD561	15.0000	0.0	7.0000	0.0	700.0000	100.0000	0.0	10.0000	0.0	70.0000
68	AKD562	30.0000	0.0	0.0	0.0	300.0000	30.0000	0.0	0.0	0.0	70.0000
69	AKD563	30.0000	0.0	5.0000	0.0	1000.0000	50.0000	0.0	15.0000	0.0	300.0000
70	AKD696	1000.0000	0.0	0.0	0.0	0.0	200.0000	0.0	0.0	0.0	50.0000
71	AKD697	15.0000	0.0	0.0	0.0	150.0000	15.0000	0.0	10.0000	0.0	70.0000
72	AKD698	20.0000	0.0	7.0000	0.0	100.0000	200.0000	0.0	20.0000	0.0	50.0000
73	AKD699	20.0000	0.0	20.0000	0.0	100.0000	100.0000	0.0	10.0000	0.0	70.0000
74	AKD700	20.0000	0.0	20.0000	15.0000	100.0000	100.0000	0.0	50.0000	200.0000	300.0000
75	AKD701	10.0000	0.0	7.0000	0.0	150.0000	200.0000	0.0	15.0000	0.0	50.0000
76	AKD702	0.0	0.0	15.0000	0.0	0.0	150.0000	0.0	0.0	0.0	300.0000
77	AKD483	10.0000	0.0	300.0000	0.0	300.0000	200.0000	0.0	15.0000	0.0	50.0000
78	AKD685	0.0	0.0	300.0000	0.0	300.0000	200.0000	0.0	15.0000	0.0	70.0000
79	AKD684	50.0000	0.0	20.0000	0.0	150.0000	200.0000	0.0	15.0000	0.0	70.0000
80	AKD683	50.0000	0.0	10.0000	0.0	150.0000	300.0000	0.0	15.0000	0.0	70.0000
81	AKD484	30.0000	0.0	0.0	0.0	200.0000	15.0000	0.0	0.0	0.0	70.0000
82	AKD477	15.0000	0.0	30.0000	0.0	500.0000	300.0000	0.0	20.0000	0.0	70.0000
83	AKD676	20.0000	0.0	20.0000	0.0	700.0000	200.0000	0.0	20.0000	0.0	70.0000
84	AKD677	15.0000	0.0	10.0000	0.0	300.0000	70.0000	0.0	10.0000	0.0	30.0000
85	AKD678	30.0000	0.0	0.0	0.0	150.0000	15.0000	0.0	0.0	0.0	50.0000
86	AKD679	0.0	0.0	70.0000	0.0	300.0000	300.0000	0.0	30.0000	0.0	50.0000
87	AKD598	0.0	0.0	50.0000	0.0	200.0000	300.0000	0.0	15.0000	0.0	20.0000

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SUNDUM A-3 ROCK SAMPLES

	SAMPLE	AU PPM
40	AKD546	0.0200L
41	AKD547	0.0200L
42	AKD589	0.0200L
42	AKD590	0.0200L
43	AKD588	0.0200L
44	AKD586	0.0200L
44	AKD587	0.0200L
45	AKD516	0.0200L
46	AKD538	0.0200L
47	AKD517	0.0200L
48	AKD540	0.0200L
48	AKD765	0.0200L
49	AKD539	0.0200L
50	AKD518	0.0200L
51	AKD692	0.0200L
52	AKD693	0.0200L
52	AKD695	0.0200L
53	AKD690	0.0200L
53	AKD691	0.0200L
54	AKD689	0.0200L
54	AKD694	0.0200L
55	AKD687	0.0200L
55	AKD688	0.0200L
56	AKD686	0.0200L
57	AKD556	0.0200L
58	AKD557	0.0200L
58	AKD558	0.0200L
59	AKD559	0.0200L
60	AKD560	0.0200L
61	AKD561	0.0200L
62	AKD562	0.0200L
63	AKD563	0.0200L
64	AKD696	0.1000
65	AKD697	0.0200L
65	AKD698	0.0200L
65	AKD699	0.0200L
66	AKD700	0.0200L
66	AKD701	0.0200L
67	AKD702	0.0200L
67	AKD483	0.0200L
68	AKD685	0.0200L
68	AKD684	0.0200L
69	AKD683	0.0200L
70	AKD484	0.0200L
71	AKD417	0.0200L
72	AKD676	0.0200L
73	AKD677	0.0200L
74	AKD678	0.0200L
75	AKD679	0.0200L
76	AKD598	0.0200L
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SUMDUM A-3 ROCK SAMPLES

MAF Number	SAMPLE	FE PCT	MG PCT	CA PCT	TI PCT	MN PPM	AG PPM	AS PPM	AU PPM	B PPM	BA PPM
78	AKD597	3.0000	0.5000	3.0000	0.1500	700.0000	0.0	0.0	0.0	0.0	300.0000
79	AKD476	5.0000	2.0000	1.5000	0.7000	1500.0000	0.0	0.0	0.0	0.0	700.0000
80	AKD481	0.3000	0.1500	0.7000	0.0700	70.0000	0.0	0.0	0.0	0.0	100.0000
81	AKD673	0.0	10.0000	10.0000	0.0	70.0000	0.0	0.0	0.0	0.0	0.0
81	AKD674	15.0000	1.5000	0.2000	0.7000	1000.0000	0.0	0.0	0.0	10.0000	1500.0000
81	AKD675	5.0000	1.0000	0.5000	0.3000	1000.0000	0.0	0.0	0.0	10.0000	700.0000
82	AKD565	0.7000	0.1500	0.7000	0.1000	300.0000	0.0	0.0	0.0	0.0	1500.0000
82	AKD566	5.0000	10.0000	20.0000	0.3000	1500.0000	0.0	0.0	0.0	0.0	300.0000
83	AKD564	10.0000	3.0000	3.0000	0.7000	1500.0000	0.0	0.0	0.0	0.0	1500.0000
84	AKD479	7.0000	1.5000	1.5000	0.5000	700.0000	0.0	0.0	0.0	0.0	1500.0000
84	AKD480	2.0000	1.0000	1.0000	0.3000	150.0000	0.0	0.0	0.0	0.0	1500.0000
85	AKD414	15.0000	3.0000	5.0000	0.7000	3000.0000	0.0	0.0	0.0	0.0	3000.0000
86	AKD669	3.0000	1.0000	0.5000	0.5000	300.0000	0.0	0.0	0.0	0.0	700.0000
86	AKD670	2.0000	0.5000	0.2000	0.2000	150.0000	0.0	0.0	0.0	0.0	150.0000
86	AKD671	5.0000	0.7000	0.5000	0.2000	2000.0000	0.0	0.0	0.0	0.0	150.0000
86	AKD672	15.0000	7.0000	7.0000	1.0000	1500.0000	0.0	0.0	0.0	10.0000	100.0000
87	AKD668	15.0000	5.0000	5.0000	1.0000	500.0000	0.0	0.0	0.0	0.0	1000.0000
87	AKD478	10.0000	2.0000	0.7000	0.5000	700.0000	0.0	0.0	0.0	0.0	2000.0000
88	AKD418	7.0000	1.5000	2.0000	0.5000	1000.0000	0.0	0.0	0.0	0.0	1000.0000
89	AKD415	15.0000	1.5000	5.0000	0.7000	3000.0000	0.0	0.0	0.0	0.0	700.0000
90	AKD495	10.0000	2.0000	3.0000	0.7000	1000.0000	0.0	0.0	0.0	0.0	1500.0000
91	AKD417	5.0000	1.5000	1.0000	0.3000	500.0000	0.0	0.0	0.0	0.0	1500.0000
92	AKD713	15.0000	3.0000	7.0000	1.0000	1500.0000	0.0	0.0	0.0	0.0	500.0000
93	AKD494	7.0000	2.0000	1.0000	0.5000	1000.0000	0.0	0.0	0.0	0.0	300.0000
94	AKD416	10.0000	3.0000	7.0000	0.5000	1500.0000	0.0	0.0	0.0	0.0	500.0000
95	AKD494	7.0000	1.0000	3.0000	0.3000	1000.0000	0.0	0.0	0.0	0.0	300.0000
96	AKD493	10.0000	1.0000	3.0000	0.5000	1000.0000	0.0	0.0	0.0	0.0	100.0000
97	AKD490	10.0000	3.0000	1.5000	0.7000	1500.0000	0.0	0.0	0.0	0.0	100.0000
97	AKD491	10.0000	3.0000	1.5000	0.3000	700.0000	0.0	0.0	0.0	0.0	100.0000
98	AKD489	15.0000	3.0000	2.0000	0.7000	1500.0000	0.0	0.0	0.0	0.0	100.0000
98	AKD712	7.0000	1.5000	2.0000	0.5000	1500.0000	0.0	0.0	0.0	0.0	500.0000
100	AKD709	10.0000	3.0000	1.5000	0.5000	500.0000	0.0	0.0	0.0	0.0	300.0000
101	AKD711	15.0000	1.5000	1.5000	0.7000	1500.0000	0.0	0.0	0.0	0.0	2000.0000
102	AKD710	15.0000	3.0000	5.0000	0.7000	1500.0000	0.0	0.0	0.0	0.0	150.0000
103	AKD714	3.0000	0.7000	1.5000	0.5000	700.0000	0.7000	0.0	0.0	0.0	5000.0000
103	AKD715	20.0000	3.0000	3.0000	0.7000	2000.0000	0.5000	0.0	0.0	0.0	300.0000
104	AKD716	7.0000	1.5000	3.0000	0.3000	700.0000	0.0	0.0	0.0	0.0	300.0000
105	AKD717	15.0000	5.0000	3.0000	0.3000	1000.0000	0.0	0.0	0.0	0.0	300.0000
106	AKD718	3.0000	0.7000	5.0000	0.3000	1500.0000	0.0	0.0	0.0	0.0	3000.0000

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SUNDUN A-3 ROCK SAMPLES

SAMPLE	P8 PPM	S8 PPM	SC PPM	SN PPM	SR PPM	V PPM	H PPM	Y PPM	ZN PPM	ZR PPM
78	AKD597	0.0 N	0.0 N	0.0 N	100.0000	30.0000	0.0 N	10.0000	0.0 N	100.0000
79	AKD476	0.0 L	15.0000	0.0 N	500.0000	200.0000	0.0 N	15.0000	0.0 L	150.0000
80	AKD481	0.0 N	0.0 N	0.0 N	150.0000	15.0000	0.0 N	10.0000	0.0 N	20.0000
81	AKD673	0.0 N	0.0 N	0.0 N	0.0 L	0.0 L	0.0 N	0.0 N	0.0 N	0.0 N
81	AKD674	30.0000	30.0000	0.0 N	100.0000	150.0000	0.0 N	50.0000	0.0 L	100.0000
81	AKD675	15.0000	15.0000	0.0 N	150.0000	30.0000	0.0 N	20.0000	0.0 N	200.0000
82	AKD565	30.0000	0.0 L	0.0 N	300.0000	15.0000	0.0 N	10.0000	0.0 N	70.0000
82	AKD566	0.0 N	20.0000	0.0 N	500.0000	150.0000	0.0 N	30.0000	0.0 L	70.0000
83	AKD564	10.0000	20.0000	0.0 N	700.0000	200.0000	0.0 N	20.0000	0.0 L	200.0000
84	AKD479	30.0000	15.0000	0.0 N	300.0000	500.0000	0.0 N	15.0000	0.0 L	20.0000
84	AKD480	30.0000	0.0 N	0.0 N	300.0000	30.0000	0.0 N	15.0000	0.0 N	20.0000
85	AKD414	0.0 L	50.0000	0.0 N	150.0000	300.0000	0.0 N	30.0000	0.0 N	100.0000
86	AKD669	30.0000	7.0000	0.0 N	150.0000	50.0000	0.0 N	10.0000	0.0 N	100.0000
86	AKD670	0.0 L	0.0 L	0.0 N	0.0 L	30.0000	0.0 N	10.0000	0.0 N	1000.0000
86	AKD671	0.0 L	15.0000	0.0 N	150.0000	30.0000	0.0 N	50.0000	0.0 L	70.0000
86	AKD672	0.0 N	30.0000	0.0 N	700.0000	200.0000	0.0 N	30.0000	0.0 L	70.0000
87	AKD668	15.0000	30.0000	0.0 N	700.0000	200.0000	0.0 N	30.0000	0.0 L	50.0000
88	AKD478	100.0000	30.0000	0.0 N	100.0000	300.0000	0.0 N	10.0000	0.0 N	70.0000
89	AKD418	0.0 L	15.0000	0.0 N	200.0000	500.0000	0.0 N	15.0000	0.0 N	100.0000
90	AKD415	20.0000	30.0000	0.0 N	150.0000	200.0000	0.0 N	30.0000	0.0 N	100.0000
91	AKD495	15.0000	20.0000	0.0 N	300.0000	200.0000	0.0 N	20.0000	0.0 L	500.0000
92	AKD417	0.0 L	15.0000	0.0 N	150.0000	300.0000	0.0 N	20.0000	0.0 L	100.0000
93	AKD416	20.0000	30.0000	0.0 N	1500.0000	200.0000	0.0 N	15.0000	0.0 N	150.0000
94	AKD494	10.0000	20.0000	0.0 N	300.0000	150.0000	0.0 N	15.0000	0.0 L	70.0000
95	AKD493	15.0000	15.0000	0.0 N	150.0000	150.0000	0.0 N	15.0000	0.0 L	70.0000
96	AKD490	0.0 N	30.0000	0.0 N	100.0000	300.0000	0.0 N	30.0000	0.0 M	100.0000
97	AKD491	0.0 N	30.0000	0.0 N	150.0000	200.0000	0.0 N	15.0000	0.0 N	70.0000
98	AKD489	15.0000	30.0000	0.0 N	100.0000	300.0000	0.0 N	15.0000	0.0 L	70.0000
99	AKD712	0.0 L	15.0000	0.0 N	300.0000	150.0000	0.0 N	20.0000	0.0 L	100.0000
100	AKD709	15.0000	20.0000	0.0 N	150.0000	300.0000	0.0 N	15.0000	0.0 L	70.0000
101	AKD710	70.0000	5.0000	0.0 N	200.0000	100.0000	0.0 N	20.0000	0.0 L	70.0000
102	AKD711	10.0000	30.0000	0.0 N	700.0000	300.0000	0.0 N	15.0000	0.0 L	70.0000
103	AKD714	10.0000	15.0000	0.0 N	150.0000	700.0000	0.0 N	30.0000	0.0 L	150.0000
103	AKD715	0.0 L	30.0000	0.0 N	0.0 L	300.0000	0.0 N	30.0000	0.0 L	1000.0000
103	AKD716	0.0 N	20.0000	0.0 N	300.0000	200.0000	0.0 N	15.0000	0.0 L	50.0000
104	AKD717	0.0 N	30.0000	0.0 N	150.0000	200.0000	0.0 N	15.0000	0.0 N	30.0000
104	AKD718	0.0 N	10.0000	0.0 N	150.0000	100.0000	0.0 N	15.0000	0.0 N	70.0000

SUMDUM A-3 ROCK SAMPLES

	SAMPLE	AU PPM
78	AKD597	0.0200L
79	AKD476	0.0200L
80	AKD481	0.0200L
81	AKD673	0.0200L
81	AKD674	0.0200L
81	AKD675	0.0200L
82	AKD565	0.0200L
82	AKD566	0.0200L
83	AKD564	0.0200L
84	AKD479	0.0200L
84	AKD480	0.0200L
85	AKD414	0.0200L
86	AKD669	0.0200L
86	AKD670	0.0200L
86	AKD671	0.0200L
86	AKD672	0.0200L
87	AKD668	0.0200L
87	AKD478	0.0200L
87	AKD418	0.0200L
88	AKD415	0.0200L
89	AKD495	0.0200L
90	AKD413	0.0200L
91	AKD417	0.0200L
92	AKD416	0.0200L
93	AKD493	0.0200L
94	AKD491	0.0200L
95	AKD489	0.0200L
96	AKD712	0.0200L
97	AKD709	0.0200L
98	AKD711	0.0200L
99	AKD710	0.0200L
100	AKD714	0.0200L
101	AKD715	0.0200L
102	AKD716	0.0200L
103	AKD717	0.0200L
104	AKD718	0.0200L
105		
106		
107		
108		

FREQUENCY TABLE FOR COLUMN 1 (FE PCT)

LIMITS		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
LOWER	UPPER				
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	0.72	0.72
3.8E-01	5.6E-01	1	2	0.72	1.45
5.6E-01	8.3E-01	4	6	2.90	4.35
8.3E-01	1.2E 00	4	10	2.90	7.25
1.2E 00	1.8E 00	6	16	4.35	11.59
1.8E 00	2.6E 00	7	23	5.07	16.67
2.6E 00	3.8E 00	24	47	17.39	34.06
3.8E 00	5.6E 00	32	79	23.19	57.25
5.6E 00	6.3E 00	21	100	15.22	72.46
8.3E 00	1.2E 01	12	112	8.70	81.16
1.2E 01	1.8E 01	20	132	14.49	95.65
1.8E 01	2.6E 01	3	135	2.17	97.83

HISTOGRAM FOR COLUMN 1 (FE PCT)

```

3.0E-01 X
5.0E-01 X
7.0E-01 XXX
1.0E 00 XXX
1.5E 00 XXXX
2.0E 00 XXXXX
3.0E 00 XXXXXXXXXXXXXXXXXXXX
5.0E 00 XXXXXXXXXXXXXXXXXXXXXXXX
7.0E 00 XXXXXXXXXXXXXXXXXXXXX
1.0E 01 XXXXXXXXX
1.5E 01 XXXXXXXXXXXXXXXX
2.0E 01 XX
    
```

22

N	L	H	B	T	G	ANALYTICAL VALUES
0	1	0	0	0	2	135
0.0	0.72			0.0	1.45	

MAXIMUM = 2.00000E 01

MINIMUM = 3.00000E-01

GEOMETRIC MEAN = 4.86111E 00

GEOMETRIC DEVIATION = 2.34996E 00

FREQUENCY TABLE FOR COLUMN 2 (MG PCT)

LOWER -	UPPER	FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
1.8E-02 -	2.6E-02	1	1	0.72	0.72
2.6E-02 -	3.8E-02	0	1	0.0	0.72
3.8E-02 -	5.6E-02	0	1	0.0	0.72
5.6E-02 -	8.3E-02	1	2	0.72	1.45
8.3E-02 -	1.2E-01	1	3	0.72	2.17
1.2E-01 -	1.8E-01	5	8	3.62	5.80
1.8E-01 -	2.6E-01	3	11	2.17	7.97
2.6E-01 -	3.8E-01	6	17	4.35	12.32
3.8E-01 -	5.6E-01	4	21	2.90	15.22
5.6E-01 -	8.3E-01	14	35	10.14	25.36
8.3E-01 -	1.2E 00	17	52	12.32	37.68
1.2E 00 -	1.8E 00	30	82	21.74	59.42
1.8E 00 -	2.6E 00	21	103	15.22	74.64
2.6E 00 -	3.8E 00	27	130	19.57	94.20
3.8E 00 -	5.6E 00	3	133	2.17	96.38
5.6E 00 -	8.3E 00	3	136	2.17	98.55
8.3E 00 -	1.2E 01	2	138	1.45	100.00

HISTOGRAM FOR COLUMN 2 (MG PCT)

2.0E-02 X
3.0E-02
5.0E-02
7.0E-02 X
1.0E-01 X
1.5E-01 XXXX
2.0E-01 XX
3.0E-01 XXXX
5.0E-01 XXX
7.0E-01 XXXXXXXXXXXX
1.0E 00 XXXXXXXXXXXX
1.5E 00 XXXXXXXXXXXXXXXXXXXX
2.0E 00 XXXXXXXXXXXXXXXX
3.0E 00 XXXXXXXXXXXXXXXXXXXX
5.0E 00 XX
7.0E 00 XX
1.0E 01 X

23

0 0 0 0 0 0 138
0.0 0.0 0.0 0.0 0.0 0.0

MAXIMUM = 1.00000E 01

MINIMUM = 2.00000E-02

GEOMETRIC MEAN = 1.27453E 00

GEOMETRIC DEVIATION = 2.69908E 00

FREQUENCY TABLE FOR COLUMN 3 (CA PCT)

LIMITS		FREQ	FREQ	PERCENT	PERCENT
LOWER	UPPER		CUM	FREQ	FREQ CUM
3.8E-02	5.6E-02	0	0	0.0	0.0
5.6E-02	8.3E-02	2	2	1.45	1.45
8.3E-02	1.2E-01	0	2	0.0	1.45
1.2E-01	1.8E-01	2	4	1.45	2.90
1.8E-01	2.6E-01	3	7	2.17	5.07
2.6E-01	3.8E-01	3	10	2.17	7.25
3.8E-01	5.6E-01	4	14	2.90	10.14
5.6E-01	8.3E-01	16	30	11.59	21.74
8.3E-01	1.2E 00	11	41	7.97	29.71
1.2E 00	1.8E 00	27	68	19.57	49.28
1.8E 00	2.6E 00	26	94	18.84	68.12
2.6E 00	3.8E 00	24	118	17.39	85.51
3.8E 00	5.6E 00	11	129	7.97	93.48
5.6E 00	8.3E 00	4	133	2.90	96.38
8.3E 00	1.2E 01	1	134	0.72	97.10
1.2E 01	1.8E 01	0	134	0.0	97.10
1.8E 01	2.6E 01	2	136	1.45	98.55

HISTOGRAM FOR COLUMN 3 (CA PCT)

7.0E-02 X
 1.0E-01
 1.5E-01 X
 2.0E-01 XX
 3.0E-01 XX
 5.0E-01 XXX
 7.0E-01 XXXXXXXXXXXXX
 1.0E 00 XXXXXXXX
 1.5E 00 XXXXXXXXXXXXXXXXXXXXX
 2.0E 00 XXXXXXXXXXXXXXXXXXXXX
 3.0E 00 XXXXXXXXXXXXXXXXXXXXX
 5.0E 00 XXXXXXXX
 7.0E 00 XXX
 1.0E 01 X
 1.5E 01
 2.0E 01 X

N	L	H	B	T	G	ANALYTICAL VALUES
0	2	0	0	0	0	136
0.0	1.45			0.0	0.0	

MAXIMUM = 2.00000E 01

MINIMUM = 7.00000E-02

GEOMETRIC MEAN = 1.59019E 00

GEOMETRIC DEVIATION = 2.57668E 00

FREQUENCY TABLE FOR COLUMN 4 (TI PCT)

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	1	1	0.72	0.72
1.8E-02 - 2.6E-02	1	2	0.72	1.45
2.6E-02 - 3.8E-02	1	3	0.72	2.17
3.8E-02 - 5.6E-02	1	4	0.72	2.90
5.6E-02 - 8.3E-02	7	11	5.07	7.97
8.3E-02 - 1.2E-01	3	14	2.17	10.14
1.2E-01 - 1.8E-01	6	20	4.35	14.49
1.8E-01 - 2.6E-01	9	29	6.52	21.01
2.6E-01 - 3.8E-01	42	71	30.43	51.45
3.8E-01 - 5.6E-01	36	107	26.09	77.54
5.6E-01 - 8.3E-01	26	133	18.84	96.38
8.3E-01 - 1.2E 00	3	136	2.17	98.55

HISTOGRAM FOR COLUMN 4 (TI PCT)

```

1.5E-02 X
2.0E-02 X
3.0E-02 X
5.0E-02 X
7.0E-02 XXXXX
1.0E-01 XX
1.5E-01 XXXX
2.0E-01 XXXXXX
3.0E-01 XXXXXXXXXXXXXXXXXXXXXXXXXXXX
5.0E-01 XXXXXXXXXXXXXXXXXXXXXXXXXXXX
7.0E-01 XXXXXXXXXXXXXXXXXXXXXXXXXXXX
1.0E 00 XX
    
```

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N L H B T G ANALYTICAL
 0 1 0 0 0 1 VALUES
 0.0 0.72 0.0 0.0 0.0 0.72 136

MAXIMUM = 1.00000E 00

MINIMUM = 1.50000E-02

GEOMETRIC MEAN = 3.29956E-01

GEOMETRIC DEVIATION = 2.14689E 00

FREQUENCY TABLE FOR COLUMN 5 (MN PPM)

LIMITS		FREQ	FREQ	PERCENT	PERCENT
LOWER	UPPER		CUM	FREQ	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	1	1	0.72	0.72
5.6E 01	8.3E 01	5	6	3.62	4.35
8.3E 01	1.2E 02	3	9	2.17	6.52
1.2E 02	1.8E 02	9	18	6.52	13.04
1.8E 02	2.6E 02	6	24	4.35	17.39
2.6E 02	3.8E 02	17	41	12.32	29.71
3.8E 02	5.6E 02	11	52	7.97	37.68
5.6E 02	8.3E 02	28	80	20.29	57.97
8.3E 02	1.2E 03	29	109	21.01	78.99
1.2E 03	1.8E 03	25	134	18.12	97.10
1.8E 03	2.6E 03	2	136	1.45	98.55
2.6E 03	3.8E 03	2	138	1.45	100.00

HISTOGRAM FOR COLUMN 5 (MN PPM)

```

5.0E 01 X
7.0E 01 XXXX
1.0E 02 XX
1.5E 02 XXXXXXXX
2.0E 02 XXXX
3.0E 02 XXXXXXXXXXXXX
5.0E 02 XXXXXXXXX
7.0E 02 XXXXXXXXXXXXXXXXXXXXX
1.0E 03 XXXXXXXXXXXXXXXXXXXXX
1.5E 03 XXXXXXXXXXXXXXXXXXXXX
2.0E 03 X
3.0E 03 X
    
```

N	L	H	B	T	G
0	0	0	0	0	0
0.0	0.0			0.0	0.0

ANALYTICAL
VALUES
138

MAXIMUM = 3.00000E 03

MINIMUM = 5.00000E 01

GEOMETRIC MEAN = 5.83681E 02

GEOMETRIC DEVIATION = 2.44221E 00

FREQUENCY TABLE FOR COLUMN 6 (AG PPM)

LIMITS		FREQ	FREQ	PERCENT	PERCENT
LOWER	UPPER		CUM	FREQ	FREQ CUM
3.8E-01	5.6E-01	4	4	2.90	2.90
5.6E-01	8.3E-01	3	7	2.17	5.07
8.3E-01	1.2E 00	0	7	0.0	5.07
1.2E 00	1.8E 00	4	11	2.90	7.97
1.8E 00	2.6E 00	0	11	0.0	7.97
2.6E 00	3.8E 00	1	12	0.72	8.70
3.8E 00	5.6E 00	0	12	0.0	8.70
5.6E 00	8.3E 00	1	13	0.72	9.42

HISTOGRAM FOR COLUMN 6 (AG PPM)

5.0E-01 XXX
 7.0E-01 XX
 1.0E 00
 1.5E 00 XXX
 2.0E 00
 3.0E 00 X
 5.0E 00
 7.0E 00 X

29

N	L	H	B	T	G	ANALYTICAL VALUES
99	26	0	0	0	0	13
71.74	18.84			0.0	0.0	

MAXIMUM = 7.00000E 00

MINIMUM = 5.00000E-01

GEOMETRIC MEAN = 1.06542E 00

GEOMETRIC DEVIATION = 2.25128E 00

FREQUENCY TABLE FOR COLUMN 7 (AS PPM)

LIMITS
LOWER - UPPER

FREQ

FREQ
CUM

PERCENT
FREQ

PERCENT
FREQ CUM

N
137
99.28

L
0
0.0

H
0

B
0

T
0
0.0

G
1
0.72

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 8 (AU PPM)

LIMITS		FREQ	FREQ	PERCENT	PERCENT	ANALYTICAL VALUES
LOWER	UPPER		CUM	FREQ	FREQ CUM	
N	L	H	B	T	G	
137	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 (8 PPM)

LIMITS		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
LOWER	UPPER				
8.3E 00	1.2E 01	24	24	17.52	17.52
1.2E 01	1.8E 01	6	30	4.38	21.90
1.8E 01	2.6E 01	0	30	0.0	21.90
2.6E 01	3.8E 01	2	32	1.46	23.36
3.8E 01	5.6E 01	1	33	0.73	24.09
5.6E 01	8.3E 01	1	34	0.73	24.82

HISTOGRAM FOR COLUMN 9 (8 PPM)

```

1.0E 01 XXXXXXXXXXXXXXXXXXXX
1.5E 01 XXXX
2.0E 01
3.0E 01 X
5.0E 01 X
7.0E 01 X
    
```

N	L	H	B	T	G	ANALYTICAL VALUES
33	70	0	0	0	0	34
24.09	51.09			0.0	0.0	

MAXIMUM = 7.00000E 01

MINIMUM = 1.00000E 01

GEOMETRIC MEAN = 1.27217E 01

GEOMETRIC DEVIATION = 1.62648E 00

FREQUENCY TABLE FOR COLUMN 10 (BA PPM)

LIMITS		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
LOWER	UPPER				
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	7	7	5.07	5.07
1.2E 02	1.8E 02	12	19	8.70	13.77
1.8E 02	2.6E 02	3	22	2.17	15.94
2.6E 02	3.8E 02	19	41	13.77	29.71
3.8E 02	5.6E 02	7	48	5.07	34.78
5.6E 02	8.3E 02	20	68	14.49	49.28
8.3E 02	1.2E 03	18	86	13.04	62.32
1.2E 03	1.8E 03	39	125	28.26	90.58
1.8E 03	2.6E 03	5	130	3.62	94.20
2.6E 03	3.8E 03	6	136	4.35	98.55

HISTOGRAM FOR COLUMN 10 (BA PPM)

1.0E 02 XXXXX
 1.5E 02 XXXXXXXXX
 2.0E 02 XX
 3.0E 02 XXXXXXXXXXXXXXX
 5.0E 02 XXXXX
 7.0E 02 XXXXXXXXXXXXXXX
 1.0E 03 XXXXXXXXXXXXXXX
 1.5E 03 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
 2.0E 03 XXXX
 3.0E 03 XXXX

33

N	L	H	B	T	G	ANALYTICAL VALUES
0	1	0	0	0	1	136
0.0	0.72			0.0	0.72	

MAXIMUM = 3.00000E 03

MINIMUM = 1.00000E 02

GEOMETRIC MEAN = 6.78698E 02

GEOMETRIC DEVIATION = 2.53901E 00

FREQUENCY TABLE FOR COLUMN 11 (BE PPM)

LIMITS		FREQ	FREQ	PERCENT	PERCENT
LOWER	UPPER		CUM	FREQ	FREQ CUM
8.3E-01	1.2E 00	26	26	18.84	18.84
1.2E 00	1.8E 00	6	32	4.35	23.19

HISTOGRAM FOR COLUMN 11 (BE PPM)

1.0E 00 XXXXXXXXXXXXXXXXXXXX
 1.5E 00 XXXX

N	L	H	B	T	G	ANALYTICAL VALUES
43	62	0	0	0	0	33
31.16	44.93			0.0	0.0	

MAXIMUM = 1.50000E 00

MINIMUM = 1.50000E-01

GEOMETRIC MEAN = 1.01637E 00

GEOMETRIC DEVIATION = 1.45963E 00

FREQUENCY TABLE FOR COLUMN 12 (BI PPM)

LIMITS		FREQ	FREQ	PERCENT	PERCENT
LOWER	UPPER		CUM	FREQ	FREQ CUM

N	L	H	B	T	G	ANALYTICAL
138	0	0	0	0	0	VALUES
*****	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		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
LOWER -	UPPER	1	1	0.72	0.72
1.8E 01 -	2.6E 01				

HISTOGRAM FOR COLUMN 13 (CD PPM)

2.0E 01 X

N	L	H	B	T	G	ANALYTICAL VALUES
137	0	0	0	0	0	1
99.28	0.0			0.0	0.0	

MAXIMUM = 2.00000E 01

MINIMUM = 2.00000E 01

GEOMETRIC MEAN = 1.99999E 01

GEOMETRIC DEVIATION = 9.99900E 48

FREQUENCY TABLE FOR COLUMN 14 (CO PPM)

LOWER LIMITS	UPPER	FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
3.8E 00 -	5.6E 00	10	10	7.25	7.25
5.6E 00 -	8.3E 00	10	20	7.25	14.49
8.3E 00 -	1.2E 01	13	33	9.42	23.91
1.2E 01 -	1.8E 01	15	48	10.87	34.78
1.8E 01 -	2.6E 01	23	71	16.67	51.45
2.6E 01 -	3.8E 01	10	81	7.25	58.70
3.8E 01 -	5.6E 01	6	87	4.35	63.04
5.6E 01 -	8.3E 01	2	89	1.45	64.49
8.3E 01 -	1.2E 02	0	89	0.0	64.49
1.2E 02 -	1.8E 02	1	90	0.72	65.22

HISTOGRAM FOR COLUMN 14 (CO PPM)

5.0E 00 XXXXXXXX
 7.0E 00 XXXXXXXX
 1.0E 01 XXXXXXXXXX
 1.5E 01 XXXXXXXXXX
 2.0E 01 XXXXXXXXXXXXXXXX
 3.0E 01 XXXXXXXX
 5.0E 01 XXXX
 7.0E 01 X
 1.0E 02
 1.5E 02 X

37

ANALYTICAL
 VALUES
 90

MAXIMUM = 1.50000E 02
 MINIMUM = 5.00000E 00
 GEOMETRIC MEAN = 1.53840E 01
 GEOMETRIC DEVIATION = 2.04284E 00

FREQUENCY TABLE FOR COLUMN 15 (CR PPM)

LIMITS		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
LOWER	UPPER				
3.8E 00 -	5.6E 00	0	0	0.0	0.0
5.6E 00 -	8.3E 00	1	1	0.72	0.72
8.3E 00 -	1.2E 01	32	33	23.19	23.91
1.2E 01 -	1.8E 01	11	44	7.97	31.88
1.8E 01 -	2.6E 01	11	55	7.97	39.86
2.6E 01 -	3.8E 01	11	66	7.97	47.83
3.8E 01 -	5.6E 01	10	76	7.25	55.07
5.6E 01 -	8.3E 01	18	94	13.04	68.12
8.3E 01 -	1.2E 02	2	96	1.45	69.57
1.2E 02 -	1.8E 02	16	112	11.59	81.16
1.8E 02 -	2.6E 02	1	113	0.72	81.88
2.6E 02 -	3.8E 02	2	115	1.45	83.33
3.8E 02 -	5.6E 02	0	115	0.0	83.33
5.6E 02 -	8.3E 02	1	116	0.72	84.06

HISTOGRAM FOR COLUMN 15 (CR PPM)

7.0E 00 X	1.0E 01 XXXXXXXXXXXXXXXXXXXXXXXX
1.5E 01 XXXXXXXX	2.0E 01 XXXXXXXX
3.0E 01 XXXXXXXX	5.0E 01 XXXXXXXX
7.0E 01 XXXXXXXXXXXXXXXX	1.0E 02 X
1.5E 02 XXXXXXXXXXXXXXXX	2.0E 02 X
3.0E 02 X	5.0E 02
7.0E 02 X	

38

N	L	H	S	T	G	ANALYTICAL VALUES
1	21	0	8	0	0	116
0.72	15.22			0.0	0.0	

MAXIMUM = 7.00000E 02

MINIMUM = 7.00000E 00

GEOMETRIC MEAN = 3.25527E 01

GEOMETRIC DEVIATION = 2.90829E 00

FREQUENCY TABLE FOR COLUMN 16 (CU PPM)

LIMITS		FREQ	FREQ	PERCENT	PERCENT
LDWER	UPPER		CUM	FREQ	FREQ CUM
3.8E 00	5.6E 00	13	13	9.42	9.42
5.6E 00	8.3E 00	6	19	4.35	13.77
8.3E 00	1.2E 01	6	25	4.35	18.12
1.2E 01	1.8E 01	15	40	10.87	28.99
1.8E 01	2.6E 01	6	46	4.35	33.33
2.6E 01	3.8E 01	15	61	10.87	44.20
3.8E 01	5.6E 01	6	67	4.35	48.55
5.6E 01	8.3E 01	11	78	7.97	56.52
8.3E 01	1.2E 02	5	83	3.62	60.14
1.2E 02	1.8E 02	12	95	8.70	68.84
1.8E 02	2.6E 02	4	99	2.90	71.74
2.6E 02	3.8E 02	1	100	0.72	72.46
3.8E 02	5.6E 02	0	100	0.0	72.46
5.6E 02	8.3E 02	0	100	0.0	72.46
8.3E 02	1.2E 03	1	101	0.72	73.19
1.2E 03	1.8E 03	0	101	0.0	73.19
1.8E 03	2.6E 03	1	102	0.72	73.91

HISTOGRAM FOR COLUMN 16 (CU PPM)

5.0E 00 XXXXXXXXX
 7.0E 00 XXXX
 1.0E 01 XXXX
 1.5E 01 XXXXXXXXXXXX
 2.0E 01 XXXX
 3.0E 01 XXXXXXXXXXXX
 5.0E 01 XXXX
 7.0E 01 XXXXXXXX
 1.0E 02 XXXX
 1.5E 02 XXXXXXXXXXXX
 2.0E 02 XXX
 3.0E 02 X
 5.0E 02
 7.0E 02
 1.0E 03 X
 1.5E 03
 2.0E 03 X

39

1 35 0 0 0.0 0.0 102
0.72 25.36

MAXIMUM = 2.00000E 03

MINIMUM = 5.00000E 00

GEOMETRIC MEAN = 3.11594E 01

GEOMETRIC DEVIATION = 3.62005E 00

FREQUENCY TABLE FOR COLUMN 17 (LA PPM)

LOWER LIMITS	UPPER LIMITS	FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
1.8E 01 -	2.6E 01	10	10	7.25	7.25
2.6E 01 -	3.8E 01	7	17	5.07	12.32
3.8E 01 -	5.6E 01	3	20	2.17	14.49
5.6E 01 -	8.3E 01	5	25	3.62	18.12
8.3E 01 -	1.2E 02	2	27	1.45	19.57
1.2E 02 -	1.8E 02	3	30	2.17	21.74

HISTOGRAM FOR COLUMN 17 (LA PPM)

2.0E 01 XXXXXX
 3.0E 01 XXXXX
 5.0E 01 XX
 7.0E 01 XXXX
 1.0E 02 X
 1.5E 02 XX

N	L	H	B	T	G	ANALYTICAL VALUES
67	41	0	0	0	0	30
48.55	29.71			0.0	0.0	

17

MAXIMUM = 1.50000E 02
 MINIMUM = 2.00000E 01
 GEOMETRIC MEAN = 4.04285E 01
 GEOMETRIC DEVIATION = 2.00420E 00

FREQUENCY TABLE FOR COLUMN 18 (MO PPM)

LIMITS		FREQ	FREQ	PERCENT	PERCENT
LOWER	UPPER		CUM	FREQ	FREQ CUM
3.8E 00	5.6E 00	11	11	7.97	7.97
5.6E 00	8.3E 00	5	16	3.62	11.59
8.3E 00	1.2E 01	3	19	2.17	13.77
1.2E 01	1.8E 01	4	23	2.90	16.67
1.8E 01	2.6E 01	1	24	0.72	17.39
2.6E 01	3.8E 01	0	24	0.0	17.39
3.8E 01	5.6E 01	0	24	0.0	17.39
5.6E 01	8.3E 01	2	26	1.45	18.84

HISTOGRAM FOR COLUMN 18 (MO PPM)

5.0E 00 XXXXXXXX
 7.0E 00 XXXX
 1.0E 01 XX
 1.5E 01 XXX
 2.0E 01 X
 3.0E 01
 5.0E 01
 7.0E 01 X

42

N	L	H	B	T	G
69	43	0	0	0	0
50.00	31.16			0.0	0.0

ANALYTICAL
 VALUES
 26

MAXIMUM = 7.00000E 01

MINIMUM = 5.00000E 00

GEOMETRIC MEAN = 8.84149E 00

GEOMETRIC DEVIATION = 2.12693E 00

FREQUENCY TABLE FOR COLUMN 19 (NB PPM)

LIMITS		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
LOWER	UPPER				
8.3E 00 -	1.2E 01	73	73	52.90	52.90
1.2E 01 -	1.8E 01	0	73	0.0	52.90
1.8E 01 -	2.6E 01	0	73	0.0	52.90
2.6E 01 -	3.8E 01	2	75	1.45	54.35

HISTOGRAM FOR COLUMN 19 (NB PPM)

1.0E 01 XX
 1.5E 01
 2.0E 01
 3.0E 01 X

N	L	H	8	T	G	ANALYTICAL VALUES
1	62	0	0	0	0	75
0.72	44.93			0.0	0.0	

MAXIMUM = 3.00000E 01
 MINIMUM = 1.00000E 01
 GEOMETRIC MEAN = 1.02970E 01
 GEOMETRIC DEVIATION = 1.19527E 00

FREQUENCY TABLE FOR COLUMN 20 (NI PPM)

LIMITS	FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
3.8E 00 -	20	20	14.49	14.49
5.6E 00 -	8	28	5.80	20.29
8.3E 00 -	13	41	9.42	29.71
1.2E 01 -	19	60	13.77	43.48
1.8E 01 -	13	73	9.42	52.90
2.6E 01 -	17	90	12.32	65.22
3.8E 01 -	3	93	2.17	67.39
5.6E 01 -	9	102	6.52	73.91
8.3E 01 -	4	106	2.90	76.81
1.2E 02 -	2	108	1.45	78.26

HISTOGRAM FOR COLUMN 20 (NI PPM)

```

5.0E 00 XXXXXXXXXXXXXXXX
7.0E 00 XXXXXX
1.0E 01 XXXXXXXXXXXX
1.5E 01 XXXXXXXXXXXXXXXX
2.0E 01 XXXXXXXXXXXX
3.0E 01 XXXXXXXXXXXXXXXX
5.0E 01 XX
7.0E 01 XXXXXXXX
1.0E 02 XXX
1.5E 02 X
    
```

57

N 5
 L 25
 H 0
 B 0
 T 0
 G 0
 18.12
 0.0
 0.0

ANALYTICAL
 VALUES
 108

MAXIMUM = 1.50000E 02
 MINIMUM = 5.00000E 00
 GEOMETRIC MEAN = 1.67396E 01
 GEOMETRIC DEVIATION = 2.49670E 00

FREQUENCY TABLE FOR COLUMN 21 (PB PPM)

LIMITS		FREQ	FREQ	PERCENT	PERCENT
LOWER	UPPER		CUM	FREQ	FREQ CUM
8.3E 00	1.2E 01	27	27	19.57	19.57
1.2E 01	1.8E 01	26	53	18.84	38.41
1.8E 01	2.6E 01	14	67	10.14	48.55
2.6E 01	3.8E 01	20	87	14.49	63.04
3.8E 01	5.6E 01	7	94	5.07	68.12
5.6E 01	8.3E 01	2	96	1.45	69.57
8.3E 01	1.2E 02	1	97	0.72	70.29
1.2E 02	1.8E 02	1	98	0.72	71.01
1.8E 02	2.6E 02	0	98	0.0	71.01
2.6E 02	3.8E 02	0	98	0.0	71.01
3.8E 02	5.6E 02	0	98	0.0	71.01
5.6E 02	8.3E 02	0	98	0.0	71.01
8.3E 02	1.2E 03	1	99	0.72	71.74

HISTOGRAM FOR COLUMN 21 (PB PPM)

1.0E 01 XXXXXXXXXXXXXXXXXXXX
 1.5E 01 XXXXXXXXXXXXXXXXXXXX
 2.0E 01 XXXXXXXXXX
 3.0E 01 XXXXXXXXXXXXXXXX
 5.0E 01 XXXXX
 7.0E 01 X
 1.0E 02 X
 1.5E 02 X
 2.0E 02
 3.0E 02
 5.0E 02
 7.0E 02
 1.0E 03 X

45

N	L	H	B	T	G
21	18	0	0	0	0
15.22	13.04			0.0	0.0

ANALYTICAL
VALUES
99

MAXIMUM = 1.00000E 03

MINIMUM = 1.00000E 01

GEOMETRIC MEAN = 1.96731E 01

GEOMETRIC DEVIATION = 2.03340E 00

FREQUENCY TABLE FOR COLUMN 22 (SB PPM)

LIMITS LOWER - UPPER	N	L	H	B	T	G	PERCENT		ANALYTICAL VALUES
							FREQ	CUM	
*****	138	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	FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
3.8E 00 -	6	6	4.35	4.35
5.6E 00 -	8	14	5.80	10.14
8.3E 00 -	9	23	6.52	16.67
1.2E 01 -	35	58	25.36	42.03
1.8E 01 -	24	82	17.39	59.42
2.6E 01 -	25	107	18.12	77.54
3.8E 01 -	2	109	1.45	78.99
5.6E 01 -	1	110	0.72	79.71
8.3E 01				

HISTOGRAM FOR COLUMN 23 (SC PPM)

```

5.0E 00 XXXX
7.0E 00 XXXXXX
1.0E 01 XXXXXXXX
1.5E 01 XXXXXXXXXXXXXXXXXXXXXXXXXXXX
2.0E 01 XXXXXXXXXXXXXXXXXXXXXXXX
3.0E 01 XXXXXXXXXXXXXXXXXXXXXXXX
5.0E 01 X
7.0E 01 X
    
```

N	L	H	8	T	G	ANALYTICAL VALUES
16	12	0	0	0	0	110
11.59	8.70			0.0	0.0	

MAXIMUM = 7.00000E 01
 MINIMUM = 5.00000E 00
 GEOMETRIC MEAN = 1.67049E 01
 GEOMETRIC DEVIATION = 1.70993E 00

FREQUENCY TABLE FOR COLUMN 24 (SN PPM)

LIMITS		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
LOWER -	UPPER				
8.3E 00	1.2E 01	0	0	0.0	0.0
1.2E 01	1.8E 01	1	1	0.72	0.72

HISTOGRAM FOR COLUMN 24 (SN PPM)

1.5E 01 X

N	L	H	B	T	G	ANALYTICAL VALUES
137	0	0	0	0	0	1
99.28	0.0			0.0	0.0	

MAXIMUM = 1.50000E 01

MINIMUM = 1.50000E 01

GEOMETRIC MEAN = 1.50000E 01

GEOMETRIC DEVIATION = 9.99900E 48

FREQUENCY TABLE FOR COLUMN 25 (SR PPM)

LIMITS		FREQ	FREQ	PERCENT	PERCENT
LOWER	UPPER		CUM	FREQ	FREQ CUM
8.3E 01	1.2E 02	12	12	8.70	8.70
1.2E 02	1.8E 02	26	38	18.84	27.54
1.8E 02	2.6E 02	13	51	9.42	36.96
2.6E 02	3.8E 02	22	73	15.94	52.90
3.8E 02	5.6E 02	8	81	5.80	58.70
5.6E 02	8.3E 02	27	108	19.57	78.26
8.3E 02	1.2E 03	11	119	7.97	86.23
1.2E 03	1.8E 03	4	123	2.90	89.13
1.8E 03	2.6E 03	0	123	0.0	89.13
2.6E 03	3.8E 03	1	124	0.72	89.86

HISTOGRAM FOR COLUMN 25 (SR PPM)

```

1.0E 02 XXXXXXXXX
1.5E 02 XXXXXXXXXXXXXXXXXXXXX
2.0E 02 XXXXXXXXX
3.0E 02 XXXXXXXXXXXXXXXXXXXXX
5.0E 02 XXXXXX
7.0E 02 XXXXXXXXXXXXXXXXXXXXX
1.0E 03 XXXXXXXXX
1.5E 03 XXX
2.0E 03
3.0E 03 X
    
```

67

N	L	H	B	T	G
0	13	0	0	0	0
0.0	9.42			0.0	0.0

ANALYTICAL
VALUES
125

MAXIMUM = 3.00000E 03

MINIMUM = 7.00000E 01

GEOMETRIC MEAN = 3.27625E 02

GEOMETRIC DEVIATION = 2.27032E 00

FREQUENCY TABLE FOR COLUMN 26 (V PPM)

LIMITS		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
LOWER	UPPER				
8.3E 00 -	1.2E 01	0	0	0.0	0.0
1.2E 01 -	1.8E 01	14	14	10.14	10.14
1.8E 01 -	2.6E 01	3	17	2.17	12.32
2.6E 01 -	3.8E 01	10	27	7.25	19.57
3.8E 01 -	5.6E 01	6	33	4.35	23.91
5.6E 01 -	8.3E 01	4	37	2.90	26.81
8.3E 01 -	1.2E 02	8	45	5.80	32.61
1.2E 02 -	1.8E 02	28	73	20.29	52.90
1.8E 02 -	2.6E 02	31	104	22.46	75.36
2.6E 02 -	3.8E 02	27	131	19.57	94.93
3.8E 02 -	5.6E 02	4	135	2.90	97.83
5.6E 02 -	8.3E 02	2	137	1.45	99.28

HISTOGRAM FOR COLUMN 26 (V PPM)

```

1.5E 01 XXXXXXXXXXXXX
2.0E 01 XX
3.0E 01 XXXXXXXX
5.0E 01 XXXX
7.0E 01 XXX
1.0E 02 XXXXXX
1.5E 02 XXXXXXXXXXXXXXXXXXXX
2.0E 02 XXXXXXXXXXXXXXXXXXXX
3.0E 02 XXXXXXXXXXXXXXXXXXXX
5.0E 02 XXXX
7.0E 02 X
    
```

50

ANALYTICAL
VALUES
137

MAXIMUM = 7.00000E 02
 MINIMUM = 1.50000E 01
 GEOMETRIC MEAN = 1.18986E 02
 GEOMETRIC DEVIATION = 2.77747E 00

FREQUENCY TABLE FOR COLUMN 27 (M PPM)

LIMITS		FREQ	FREQ	PERCENT	PERCENT	ANALYTICAL	
LOWER	UPPER	CUM	FREQ	FREQ	FREQ	CUM	VALUES
N	L	H	B	T	G		
138	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)

LOWER - UPPER	FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
8.3E 00 -	26	26	18.84	18.84
1.2E 01 -	46	72	33.33	52.17
1.8E 01 -	30	102	21.74	73.91
2.6E 01 -	12	114	8.70	82.61
3.8E 01 -	3	117	2.17	84.78
5.6E 01 -	1	118	0.72	85.51
8.3E 01 -	1	119	0.72	86.23

HISTOGRAM FOR COLUMN 28 (Y PPM)

```

1.0E 01 XXXXXXXXXXXXXXXXXXXXXXXX
1.5E 01 XXXXXXXXXXXXXXXXXXXXXXXX
2.0E 01 XXXXXXXXXXXXXXXXXXXXXXXX
3.0E 01 XXXXXXXXXXXXXXXX
5.0E 01 XX
7.0E 01 X
1.0E 02 X
    
```

ST	N	L	H	B	T	G	ANALYTICAL VALUES
01	1	18	0	0	0	0	119
02	13.04	0.72	0.0	0.0	0.0		

MAXIMUM = 1.00000E 02
 MINIMUM = 1.00000E 01
 GEOMETRIC MEAN = 1.67954E 01
 GEOMETRIC DEVIATION = 1.52979E 00

FREQUENCY TABLE FOR COLUMN 29 (ZN PPM)

LOWER - UPPER	FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
1.8E 02 - 2.6E 02	4	4	2.90	2.90
2.6E 02 - 3.8E 02	5	9	3.62	6.52
3.8E 02 - 5.6E 02	1	10	0.72	7.25
5.6E 02 - 8.3E 02	0	10	0.0	7.25
8.3E 02 - 1.2E 03	1	11	0.72	7.97
1.2E 03 - 1.8E 03	0	11	0.0	7.97
1.8E 03 - 2.6E 03	0	11	0.0	7.97
2.6E 03 - 3.8E 03	0	11	0.0	7.97
3.8E 03 - 5.6E 03	1	12	0.72	8.70

HISTOGRAM FOR COLUMN 29 (ZN PPM)

2.0E 02 XXX
 3.0E 02 XXXX
 5.0E 02 X
 7.0E 02
 1.0E 03 X
 1.5E 03
 2.0E 03
 3.0E 03
 5.0E 03 X

N	L	H	B	T	G	ANALYTICAL VALUES
75	51	0	0	0	0	12
54.35	36.96			0.0	0.0	

MAXIMUM = 5.00000E 03
 MINIMUM = 2.00000E 02
 GEOMETRIC MEAN = 3.82209E 02
 GEOMETRIC DEVIATION = 2.54274E 00

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 23

FREQUENCY TABLE FOR COLUMN 30 (ZR PPM)

LIMITS		FREQ	FREQ	PERCENT	PERCENT
LOWER	UPPER		CUM	FREQ	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	4	4	2.90	2.90
2.6E 01	3.8E 01	5	9	3.62	6.52
3.8E 01	5.6E 01	21	30	15.22	21.74
5.6E 01	8.3E 01	54	84	39.13	60.87
8.3E 01	1.2E 02	27	111	19.57	80.43
1.2E 02	1.8E 02	9	120	6.52	86.96
1.8E 02	2.6E 02	3	123	2.17	89.13
2.6E 02	3.8E 02	8	131	5.80	94.93
3.8E 02	5.6E 02	1	132	0.72	95.65
5.6E 02	8.3E 02	0	132	0.0	95.65
8.3E 02	1.2E 03	1	133	0.72	96.38

HISTOGRAM FOR COLUMN 30 (ZR PPM)

```

2.0E 01 XXX
3.0E 01 XXXX
5.0E 01 XXXXXXXXXXXXXXXX
7.0E 01 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
1.0E 02 XXXXXXXXXXXXXXXXXXXXXXXX
1.5E 02 XXXXXXXX
2.0E 02 XX
3.0E 02 XXXXXX
5.0E 02 X
7.0E 02
1.0E 03 X
    
```

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N	L	H	B	T	G	ANALYTICAL VALUES
1	3	0	0	0	1	133
0.72	2.17			0.0	0.72	

MAXIMUM = 1.00000E 03

MINIMUM = 2.00000E 01

GEOMETRIC MEAN = 8.11095E 01

GEOMETRIC DEVIATION = 1.84135E 00

FREQUENCY TABLE FOR COLUMN 31 (AU PPM)

LIMITS		FREQ	FREQ	PERCENT	PERCENT
LOWER	UPPER		CUM	FREQ	FREQ CUM
1.8E-02	2.6E-02	1	1	0.72	0.72
2.6E-02	3.8E-02	0	1	0.0	0.72
3.8E-02	5.6E-02	0	1	0.0	0.72
5.6E-02	8.3E-02	0	1	0.0	0.72
8.3E-02	1.2E-01	1	2	0.72	1.45
1.2E-01	1.8E-01	0	2	0.0	1.45
1.8E-01	2.6E-01	0	2	0.0	1.45
2.6E-01	3.8E-01	0	2	0.0	1.45
3.8E-01	5.6E-01	0	2	0.0	1.45
5.6E-01	8.3E-01	1	3	0.72	2.17

HISTOGRAM FOR COLUMN 31 (AU PPM)

2.0E-02 X
 3.0E-02
 5.0E-02
 7.0E-02
 1.0E-01 X
 1.5E-01
 2.0E-01
 3.0E-01
 5.0E-01
 7.0E-01 X

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N	L	H	B	T	G	ANALYTICAL VALUES
0	135	0	0	0	0	3
0.0	97.83			0.0	0.0	

MAXIMUM = 7.00000E-01

MINIMUM = 2.00000E-02

GEOMETRIC MEAN = 1.11869E-01

GEOMETRIC DEVIATION = 5.93178E 00

A470 STATISTICAL SUMMARY

DATE 4/22/70

ELEMENT	N	L	H	B	T	G	ANALYTICAL VALUES
FE PCT	0	1	0	0	0	2	135
MG PCT	0	0	0	0	0	0	138
CA PCT	0	2	0	0	0	0	136
TI PCT	0	1	0	0	0	1	136
MN PPM	0	0	0	0	0	0	138
AG PPM	99	26	0	0	0	0	13
AS PPM	137	0	0	0	0	1	0
AU PPM	137	0	0	0	0	0	0
B PPM	33	70	0	0	0	0	34
BA PPM	0	1	0	0	0	1	136
BE PPM	43	62	0	0	0	0	33
BI PPM	138	0	0	0	0	0	0
CD PPM	137	0	0	0	0	0	1
CO PPM	23	25	0	0	0	0	90
CR PPM	1	21	0	0	0	0	116
CU PPM	1	35	0	0	0	0	102
LA PPM	67	41	0	0	0	0	30
MO PPM	69	43	0	0	0	0	26
NB PPM	1	62	0	0	0	0	75
NI PPM	5	25	0	0	0	0	108
PB PPM	21	18	0	0	0	0	99
SB PPM	138	0	0	0	0	0	0
SC PPM	16	12	0	0	0	0	110
SN PPM	137	0	0	0	0	0	1
SR PPM	0	13	0	0	0	0	125
V PPM	0	1	0	0	0	0	137
W PPM	138	0	0	0	0	0	0
Y PPM	1	18	0	0	0	0	119
ZN PPM	75	51	0	0	0	0	12
ZR PPM	1	3	0	0	0	1	133
AU PPM	0	135	0	0	0	0	3

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ELEMENT	GEOMETRIC MEAN	GEOMETRIC DEVIATION	REMARKS
FE PCT	*****	*****	2 GREATER THAN VALUES. NO COMPUTATIONS.
MG PCT	1.274533	2.70	138 SAMPLES AND 138 ANALYTICAL VALUES.
CA PCT	1.500713	2.87	2 NOT DETECTED, LESS THAN, OR TRACE VALUES. 136 REPORTED VALUES.
TI PCT	*****	*****	1 GREATER THAN VALUES. NO COMPUTATIONS.
MN PPM	583.679688	2.44	138 SAMPLES AND 138 ANALYTICAL VALUES.
AG PPM	*****	*****	125 NOT DETECTED, LESS THAN, OR TRACE VALUES. 13 REPORTED VALUES. NO COMPUTATIONS.
AS PPM	*****	*****	1 GREATER THAN VALUES. NO COMPUTATIONS.
AU PPM	*****	*****	137 NOT DETECTED, LESS THAN, OR TRACE VALUES. 0 REPORTED VALUES. NO COMPUTATIONS.
B PPM	*****	*****	103 NOT DETECTED, LESS THAN, OR TRACE VALUES. 34 REPORTED VALUES. NO COMPUTATIONS.
BA PPM	*****	*****	1 GREATER THAN VALUES. NO COMPUTATIONS.
BE PPM	*****	*****	1 VALUES LESS THAN SPECIFIED LIMIT OF DETECTION. NO COMPUTATIONS.
BI PPM	*****	*****	138 NOT DETECTED, LESS THAN, OR TRACE VALUES. 0 REPORTED VALUES. NO COMPUTATIONS.
CD PPM	*****	*****	137 NOT DETECTED, LESS THAN, OR TRACE VALUES. 1 REPORTED VALUES. NO COMPUTATIONS.
CO PPM	7.171560	3.50	48 NOT DETECTED, LESS THAN, OR TRACE VALUES. 90 REPORTED VALUES.
CR PPM	20.613739	4.28	22 NOT DETECTED, LESS THAN, OR TRACE VALUES. 116 REPORTED VALUES.
CU PPM	13.534781	6.33	36 NOT DETECTED, LESS THAN, OR TRACE VALUES. 102 REPORTED VALUES.
LA PPM	5.641302	4.26	108 NOT DETECTED, LESS THAN, OR TRACE VALUES. 30 REPORTED VALUES.
MO PPM	0.931540	4.79	112 NOT DETECTED, LESS THAN, OR TRACE VALUES. 26 REPORTED VALUES.
NB PPM	8.453412	1.32	63 NOT DETECTED, LESS THAN, OR TRACE VALUES. 75 REPORTED VALUES.
NI PPM	10.421004	3.45	30 NOT DETECTED, LESS THAN, OR TRACE VALUES. 108 REPORTED VALUES.
PB PPM	12.984768	2.53	39 NOT DETECTED, LESS THAN, OR TRACE VALUES. 99 REPORTED VALUES.

SB PPM	*****	*****
SC PPM	11.284278	2.54
SN PPM	*****	*****
SR PPM	*****	*****
V PPM	116.417862	2.86
W PPM	*****	*****
Y PPM	14.676924	1.69
ZN PPM	*****	*****
ZR PPM	*****	*****
AU PPM	*****	*****

138 NOT DETECTED, LESS THAN, OR TRACE VALUES.	0 REPORTED VALUES. NO COMPUTATIONS.
28 NOT DETECTED, LESS THAN, OR TRACE VALUES.	110 REPORTED VALUES.
137 NOT DETECTED, LESS THAN, OR TRACE VALUES.	1 REPORTED VALUES. NO COMPUTATIONS.
1 VALUES LESS THAN SPECIFIED LIMIT OF DETECTION. NO COMPUTATIONS.	
1 NOT DETECTED, LESS THAN, OR TRACE VALUES.	137 REPORTED VALUES.
138 NOT DETECTED, LESS THAN, OR TRACE VALUES.	0 REPORTED VALUES. NO COMPUTATIONS.
19 NOT DETECTED, LESS THAN, OR TRACE VALUES.	119 REPORTED VALUES.
126 NOT DETECTED, LESS THAN, OR TRACE VALUES.	12 REPORTED VALUES. NO COMPUTATIONS.
1 GREATER THAN VALUES. NO COMPUTATIONS.	
135 NOT DETECTED, LESS THAN, OR TRACE VALUES.	3 REPORTED VALUES. NO COMPUTATIONS.

TABLE 3. SUMDUH A-3 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
107	AKD604	7.0000	1.5000	2.0000	0.3000	1000.0000	0.0	0.0	0.0	0.0	1500.0000
108	AKD605	3.0000	1.5000	2.0000	0.3000	700.0000	0.0	0.0	0.0	0.0	1000.0000
109	AKD606	7.0000	2.0000	1.5000	0.5000	700.0000	0.0	0.0	0.0	15.0000	700.0000
110	AKD617	5.0000	2.0000	2.0000	0.5000	1000.0000	0.0	0.0	0.0	15.0000	1000.0000
111	AKD618	7.0000	2.0000	1.5000	0.5000	1000.0000	0.0	0.0	0.0	0.0	700.0000
112	AKD506	3.0000	1.5000	2.0000	0.3000	700.0000	0.0	0.0	0.0	10.0000	1000.0000
113	AKD505	5.0000	1.5000	2.0000	0.3000	700.0000	0.0	0.0	0.0	0.0	700.0000
114	AKD504	3.0000	1.5000	1.5000	0.3000	700.0000	0.0	0.0	0.0	0.0	700.0000
115	AKD503	5.0000	2.0000	2.0000	0.3000	700.0000	0.0	0.0	0.0	0.0	500.0000
116	AKD616	3.0000	3.0000	2.0000	0.5000	1000.0000	0.0	0.0	0.0	15.0000	700.0000
117	AKD502	7.0000	2.0000	3.0000	0.5000	1000.0000	0.0	0.0	0.0	10.0000	700.0000
118	AKD507	5.0000	2.0000	3.0000	0.5000	1000.0000	0.0	0.0	0.0	10.0000	500.0000
119	AKD608	20.0000	2.0000	3.0000	0.7000	1500.0000	0.0	0.0	0.0	15.0000	700.0000
120	AKD607	10.0000	1.5000	1.0000	0.7000	1500.0000	0.0	0.0	0.0	10.0000	1500.0000
121	AKD609	15.0000	2.0000	3.0000	0.5000	1500.0000	0.0	0.0	0.0	15.0000	700.0000
122	AKD612	15.0000	1.5000	2.0000	0.5000	1000.0000	0.0	0.0	0.0	10.0000	700.0000
123	AKD615	15.0000	1.5000	2.0000	0.5000	1500.0000	0.0	0.0	0.0	15.0000	700.0000
124	AKD508	7.0000	2.0000	3.0000	0.3000	1000.0000	0.0	0.0	0.0	15.0000	1000.0000
125	AKD610	7.0000	2.0000	2.0000	0.5000	1000.0000	0.0	0.0	0.0	10.0000	700.0000
126	AKD613	5.0000	1.5000	1.5000	0.3000	700.0000	0.0	0.0	0.0	0.0	700.0000
127	AKD614	15.0000	1.5000	2.0000	0.5000	1500.0000	0.0	0.0	0.0	15.0000	700.0000
128	AKD501	5.0000	1.0000	1.5000	0.5000	1000.0000	0.0	0.0	0.0	10.0000	1000.0000
129	AKD611	10.0000	1.5000	1.5000	0.5000	700.0000	0.0	0.0	0.0	10.0000	700.0000
130	AKD509	2.0000	1.0000	1.5000	0.3000	300.0000	0.0	0.0	0.0	0.0	1500.0000
131	AKD624	20.0000	2.0000	5.0000	0.7000	1500.0000	0.0	0.0	0.0	0.0	700.0000
132	AKD625	15.0000	2.0000	5.0000	0.5000	1500.0000	0.0	0.0	0.0	0.0	700.0000
133	AKD626	10.0000	1.5000	3.0000	0.5000	1500.0000	0.0	0.0	0.0	0.0	700.0000
134	AKD627	3.0000	1.0000	2.0000	0.3000	500.0000	0.0	0.0	0.0	10.0000	700.0000
135	AKD620	7.0000	2.0000	1.5000	0.7000	1500.0000	0.0	0.0	0.0	15.0000	1000.0000
136	AKD619	7.0000	3.0000	2.0000	0.7000	1000.0000	0.0	0.0	0.0	0.0	300.0000
137	AKD621	5.0000	2.0000	2.0000	0.5000	1000.0000	0.0	0.0	0.0	0.0	1500.0000
138	AKD510	10.0000	2.0000	3.0000	0.5000	1000.0000	0.0	0.0	0.0	0.0	300.0000
139	AKD623	10.0000	2.0000	5.0000	0.7000	1500.0000	0.0	0.0	0.0	0.0	700.0000
140	AKD457	3.0000	1.0000	2.0000	0.3000	1000.0000	0.0	0.0	0.0	0.0	1000.0000
141	AKD628	15.0000	2.0000	3.0000	0.7000	1500.0000	0.0	0.0	0.0	0.0	1000.0000
142	AKD458	10.0000	1.5000	1.5000	0.5000	1000.0000	0.0	0.0	0.0	0.0	700.0000
143	AKD456	15.0000	1.0000	2.0000	0.5000	700.0000	0.0	0.0	0.0	0.0	700.0000
144	AKD622	10.0000	3.0000	5.0000	1.0000	1500.0000	0.0	0.0	0.0	0.0	700.0000
145	AKD656	7.0000	3.0000	3.0000	0.5000	1000.0000	0.0	0.0	0.0	0.0	1000.0000
146	AKD475	7.0000	3.0000	3.0000	0.5000	1000.0000	0.0	0.0	0.0	10.0000	700.0000
147	AKD459	7.0000	1.5000	1.5000	0.5000	1500.0000	0.0	0.0	0.0	0.0	700.0000
148	AKD452	10.0000	2.0000	5.0000	0.7000	1500.0000	0.0	0.0	0.0	0.0	700.0000
149	AKD655	5.0000	1.5000	2.0000	0.3000	1000.0000	0.0	0.0	0.0	0.0	1500.0000
150	AKD654	7.0000	2.0000	1.5000	0.5000	1000.0000	0.0	0.0	0.0	0.0	700.0000
151	AKD653	7.0000	3.0000	2.0000	0.5000	1000.0000	0.0	0.0	0.0	10.0000	700.0000
152	AKD652	10.0000	5.0000	7.0000	0.3000	1500.0000	0.0	0.0	0.0	0.0	700.0000
153	AKD651	15.0000	3.0000	5.0000	0.7000	1500.0000	0.0	0.0	0.0	0.0	700.0000
154	AKD460	5.0000	1.0000	2.0000	0.5000	1000.0000	0.0	0.0	0.0	0.0	700.0000
155	AKD474	10.0000	2.0000	3.0000	0.7000	1000.0000	0.0	0.0	0.0	10.0000	1000.0000
156	AKD473	10.0000	3.0000	3.0000	0.5000	1500.0000	0.0	0.0	0.0	10.0000	700.0000

SUMDUM A-3 STREAM SEDIMENTS

SAMPLE	BE PPM	BI PPM	CD PPM	CO PPM	CR PPM	CU PPM	LA PPM	MO PPM	NB PPM	NI PPM
107	0.0 L	0.0 N	0.0 N	15.0000	20.0000	15.0000	150.0000	0.0 L	10.0000	0.0 L
108	0.0 L	0.0 N	0.0 N	15.0000	30.0000	7.0000	20.0000	0.0 L	10.0000	10.0000
109	0.0 L	0.0 N	0.0 N	10.0000	30.0000	7.0000	30.0000	0.0 L	10.0000	7.0000
110	0.0 L	0.0 N	0.0 N	20.0000	100.0000	15.0000	70.0000	0.0 L	10.0000	20.0000
111	0.0 L	0.0 N	0.0 N	15.0000	100.0000	10.0000	100.0000	0.0 L	10.0000	15.0000
112	0.0 L	0.0 N	0.0 N	10.0000	15.0000	7.0000	20.0000	0.0 L	10.0000	0.0 L
113	0.0 L	0.0 N	0.0 N	15.0000	50.0000	7.0000	0.0 L	0.0 L	10.0000	10.0000
114	0.0 L	0.0 N	0.0 N	15.0000	70.0000	20.0000	20.0000	0.0 L	0.0 L	15.0000
115	0.0 L	0.0 N	0.0 N	20.0000	70.0000	15.0000	30.0000	0.0 N	10.0000	20.0000
116	1.0000	0.0 N	0.0 N	15.0000	100.0000	10.0000	0.0 N	0.0 L	10.0000	30.0000
117	0.0 L	0.0 N	0.0 N	20.0000	100.0000	15.0000	30.0000	0.0 L	10.0000	20.0000
118	0.0 L	0.0 N	0.0 N	20.0000	100.0000	10.0000	10.0000	0.0 L	10.0000	30.0000
119	0.0 L	0.0 N	0.0 N	30.0000	150.0000	30.0000	150.0000	5.0000	10.0000	30.0000
120	0.0 L	0.0 N	0.0 N	30.0000	150.0000	30.0000	30.0000	0.0 L	10.0000	50.0000
121	0.0 L	0.0 N	0.0 N	20.0000	70.0000	10.0000	150.0000	0.0 L	10.0000	20.0000
122	0.0 L	0.0 N	0.0 N	20.0000	70.0000	30.0000	0.0 L	0.0 L	10.0000	15.0000
123	0.0 L	0.0 N	0.0 N	15.0000	100.0000	7.0000	0.0 L	5.0000	10.0000	15.0000
124	1.0000	0.0 N	0.0 N	15.0000	15.0000	5.0000	0.0 L	0.0 L	10.0000	7.0000
125	0.0 L	0.0 N	0.0 N	20.0000	50.0000	10.0000	0.0 L	0.0 L	10.0000	20.0000
126	0.0 L	0.0 N	0.0 N	10.0000	30.0000	15.0000	0.0 L	0.0 L	10.0000	15.0000
127	0.0 L	0.0 N	0.0 N	15.0000	100.0000	70.0000	50.0000	0.0 L	10.0000	15.0000
128	0.0 L	0.0 N	0.0 N	15.0000	15.0000	5.0000	0.0 L	0.0 L	0.0 L	0.0 L
129	0.0 L	0.0 N	0.0 N	20.0000	150.0000	30.0000	0.0 L	0.0 L	10.0000	30.0000
130	1.0000	0.0 N	0.0 N	5.0000	10.0000	0.0 L	0.0 L	0.0 N	0.0 L	0.0 L
131	0.0 L	0.0 N	0.0 N	30.0000	150.0000	10.0000	150.0000	0.0 L	10.0000	20.0000
132	0.0 L	0.0 N	0.0 N	20.0000	30.0000	7.0000	20.0000	0.0 L	10.0000	15.0000
133	1.0000	0.0 N	0.0 N	15.0000	50.0000	10.0000	30.0000	0.0 N	10.0000	15.0000
134	1.5000	0.0 N	0.0 N	10.0000	10.0000	10.0000	0.0 N	0.0 N	0.0 L	10.0000
135	0.0 L	0.0 N	0.0 N	30.0000	150.0000	30.0000	150.0000	0.0 L	10.0000	30.0000
136	0.0 L	0.0 N	0.0 N	30.0000	150.0000	30.0000	0.0 N	0.0 L	10.0000	20.0000
137	0.0 N	0.0 N	0.0 N	30.0000	100.0000	50.0000	0.0 N	0.0 L	10.0000	30.0000
138	0.0 L	0.0 N	0.0 N	15.0000	30.0000	10.0000	150.0000	0.0 L	10.0000	15.0000
139	1.0000	0.0 N	0.0 N	5.0000	10.0000	0.0 L	0.0 L	0.0 N	0.0 L	10.0000
140	1.0000	0.0 N	0.0 N	30.0000	10.0000	0.0 L	0.0 L	0.0 N	0.0 L	10.0000
141	0.0 L	0.0 N	0.0 N	30.0000	70.0000	5.0000	0.0 L	0.0 L	10.0000	30.0000
142	0.0 N	0.0 N	0.0 N	15.0000	15.0000	5.0000	0.0 N	0.0 L	0.0 L	10.0000
143	0.0 L	0.0 N	0.0 N	10.0000	70.0000	0.0 L	0.0 N	0.0 L	10.0000	15.0000
144	1.0000	0.0 N	0.0 N	20.0000	150.0000	50.0000	20.0000	0.0 L	10.0000	70.0000
145	0.0 L	0.0 N	0.0 N	20.0000	70.0000	10.0000	0.0 L	0.0 L	10.0000	30.0000
146	0.0 L	0.0 N	0.0 N	15.0000	70.0000	10.0000	20.0000	0.0 L	10.0000	20.0000
147	1.0000	0.0 N	0.0 N	30.0000	20.0000	0.0 L	30.0000	0.0 L	10.0000	15.0000
148	1.5000	0.0 N	0.0 N	30.0000	30.0000	30.0000	20.0000	0.0 L	10.0000	30.0000
149	0.0 L	0.0 N	0.0 N	15.0000	70.0000	30.0000	0.0 L	0.0 L	0.0 L	30.0000
150	0.0 L	0.0 N	0.0 N	20.0000	100.0000	30.0000	30.0000	0.0 L	10.0000	30.0000
151	0.0 L	0.0 N	0.0 N	20.0000	100.0000	15.0000	150.0000	0.0 L	10.0000	30.0000
152	0.0 L	0.0 N	0.0 N	20.0000	100.0000	20.0000	0.0 L	0.0 L	10.0000	30.0000
153	0.0 L	0.0 N	0.0 N	30.0000	150.0000	15.0000	20.0000	0.0 L	10.0000	30.0000
154	1.5000	0.0 N	0.0 N	5.0000	30.0000	0.0 L	0.0 L	0.0 L	10.0000	5.0000
155	0.0 L	0.0 N	0.0 N	20.0000	50.0000	10.0000	30.0000	0.0 L	10.0000	15.0000
156	0.0 L	0.0 N	0.0 N	30.0000	200.0000	15.0000	30.0000	0.0 L	10.0000	50.0000

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SUNDUM A-3 STREAM SEDIMENTS

SAMPLE	P8, PPM	SB, PPM	SC, PPM	SN, PPM	SR, PPM	V, PPM	W, PPM	Y, PPM	ZN, PPM	ZR, PPM	
107	AKD604	20.0000	0.0	N	700.0000	200.0000	0.0	15.0000	0.0	N	300.0000
108	AKD605	30.0000	0.0	N	500.0000	200.0000	0.0	15.0000	0.0	N	300.0000
109	AKD606	20.0000	0.0	N	500.0000	300.0000	0.0	15.0000	0.0	L	500.0000
110	AKD617	30.0000	0.0	N	700.0000	150.0000	0.0	20.0000	0.0	L	70.0000
111	AKD618	30.0000	0.0	N	300.0000	300.0000	0.0	20.0000	0.0	L	70.0000
112	AKD506	15.0000	0.0	N	500.0000	150.0000	0.0	10.0000	0.0	L	200.0000
113	AKD505	15.0000	0.0	N	500.0000	150.0000	0.0	15.0000	0.0	N	200.0000
114	AKD504	15.0000	0.0	N	300.0000	100.0000	0.0	15.0000	0.0	N	70.0000
115	AKD503	10.0000	0.0	N	300.0000	200.0000	0.0	20.0000	0.0	N	200.0000
116	AKD616	20.0000	0.0	N	300.0000	200.0000	0.0	20.0000	0.0	L	100.0000
117	AKD502	20.0000	0.0	N	300.0000	200.0000	0.0	150.0000	0.0	L	300.0000
118	AKD507	15.0000	0.0	N	300.0000	150.0000	0.0	15.0000	0.0	L	200.0000
119	AKD608	0.0	0.0	N	500.0000	500.0000	0.0	30.0000	0.0	L	100.0000
120	AKD607	20.0000	0.0	N	200.0000	300.0000	0.0	20.0000	0.0	L	150.0000
121	AKD609	10.0000	0.0	N	500.0000	300.0000	0.0	30.0000	0.0	L	300.0000
122	AKD612	10.0000	0.0	N	300.0000	300.0000	0.0	20.0000	0.0	L	1000.0000
123	AKD615	10.0000	0.0	N	500.0000	500.0000	0.0	20.0000	0.0	L	300.0000
124	AKD508	20.0000	0.0	N	700.0000	300.0000	0.0	15.0000	0.0	L	100.0000
125	AKD610	20.0000	0.0	N	500.0000	300.0000	0.0	20.0000	0.0	L	300.0000
126	AKD613	15.0000	0.0	N	500.0000	150.0000	0.0	15.0000	0.0	N	70.0000
127	AKD614	15.0000	0.0	N	20.0000	500.0000	0.0	20.0000	0.0	L	700.0000
128	AKD501	20.0000	0.0	N	300.0000	200.0000	0.0	15.0000	0.0	N	70.0000
129	AKD611	20.0000	0.0	N	500.0000	300.0000	0.0	10.0000	0.0	L	100.0000
130	AKD509	20.0000	0.0	N	300.0000	500.0000	0.0	30.0000	0.0	N	300.0000
131	AKD624	10.0000	0.0	N	700.0000	300.0000	0.0	30.0000	0.0	N	150.0000
132	AKD625	0.0	0.0	N	500.0000	300.0000	0.0	30.0000	0.0	N	700.0000
133	AKD626	0.0	0.0	N	30.0000	300.0000	0.0	10.0000	0.0	N	70.0000
134	AKD627	15.0000	0.0	N	700.0000	100.0000	0.0	10.0000	0.0	N	70.0000
135	AKD620	15.0000	0.0	N	200.0000	300.0000	0.0	50.0000	0.0	L	200.0000
136	AKD619	10.0000	0.0	N	30.0000	300.0000	0.0	20.0000	0.0	L	70.0000
137	AKD621	10.0000	0.0	N	30.0000	300.0000	0.0	15.0000	0.0	L	70.0000
138	AKD510	20.0000	0.0	N	20.0000	200.0000	0.0	15.0000	0.0	L	70.0000
139	AKD623	10.0000	0.0	N	500.0000	300.0000	0.0	30.0000	0.0	N	1000.0000
140	AKD457	20.0000	0.0	N	700.0000	150.0000	0.0	15.0000	0.0	N	70.0000
141	AKD628	0.0	0.0	N	500.0000	300.0000	0.0	30.0000	0.0	N	70.0000
142	AKD458	15.0000	0.0	N	700.0000	150.0000	0.0	10.0000	0.0	N	70.0000
143	AKD456	0.0	0.0	N	200.0000	300.0000	0.0	15.0000	0.0	L	100.0000
144	AKD622	10.0000	0.0	N	300.0000	300.0000	0.0	30.0000	0.0	N	500.0000
145	AKD656	20.0000	0.0	N	500.0000	200.0000	0.0	20.0000	0.0	L	70.0000
146	AKD475	15.0000	0.0	N	300.0000	200.0000	0.0	20.0000	0.0	L	500.0000
147	AKD459	20.0000	0.0	N	300.0000	150.0000	0.0	10.0000	0.0	N	70.0000
148	AKD452	10.0000	0.0	N	700.0000	200.0000	0.0	20.0000	0.0	L	500.0000
149	AKD655	15.0000	0.0	N	300.0000	200.0000	0.0	20.0000	0.0	L	70.0000
150	AKD654	15.0000	0.0	N	300.0000	200.0000	0.0	15.0000	0.0	N	100.0000
151	AKD653	15.0000	0.0	N	300.0000	200.0000	0.0	20.0000	0.0	N	500.0000
152	AKD652	15.0000	0.0	N	300.0000	200.0000	0.0	20.0000	0.0	N	300.0000
153	AKD651	10.0000	0.0	N	300.0000	300.0000	0.0	30.0000	0.0	L	200.0000
154	AKD460	15.0000	0.0	N	500.0000	150.0000	0.0	15.0000	0.0	N	70.0000
155	AKD474	15.0000	0.0	N	700.0000	300.0000	0.0	30.0000	0.0	L	300.0000
156	AKD473	20.0000	0.0	N	500.0000	300.0000	0.0	20.0000	0.0	L	150.0000

SUMDUM A-3 STREAM SEDIMENTS

	SAMPLE	AU PPM
107	AKD604	0.0200L
108	AKD605	0.0200L
109	AKD606	0.0200L
110	AKD617	0.0200L
111	AKD618	0.0200L
112	AKD506	0.0200L
113	AKD505	0.0200L
114	AKD504	0.0200L
115	AKD503	0.0200L
116	AKD616	0.0200L
117	AKD502	0.0200L
118	AKD507	0.0200L
119	AKD608	0.0200L
120	AKD607	0.0200L
121	AKD609	0.0200L
122	AKD612	0.0200L
123	AKD615	0.0200L
124	AKD508	0.0200L
125	AKD610	0.0200L
126	AKD613	0.0200L
127	AKD614	0.0200L
128	AKD501	0.0200L
129	AKD611	0.0200L
130	AKD509	0.0200L
131	AKD624	0.0200L
132	AKD625	0.0200L
133	AKD626	0.0200L
134	AKD627	0.0200L
135	AKD620	0.0200L
136	AKD619	0.0200L
137	AKD621	0.0200L
138	AKD510	0.0200L
139	AKD623	0.0200L
140	AKD457	0.0200L
141	AKD628	0.0200L
142	AKD458	0.0200L
143	AKD456	0.0200L
144	AKD622	0.0200L
145	AKD656	0.0200L
146	AKD475	0.0200L
147	AKD459	0.0200L
148	AKD452	0.0400L
149	AKD655	0.0200L
150	AKD654	0.0200L
151	AKD653	0.0200L
152	AKD652	0.0200L
153	AKD651	0.0200L
154	AKD460	0.0200L
155	AKD474	0.0200L
156	AKD473	0.0200L

SUMDUM A-3 STREAM SEDIMENTS

POP NUMBER	SAMPLE	FE PCT	MG PCT	CA PCT	TI PCT	MN PPM	AG PPM	AS PPM	AU PPM	B PPM	BA PPM
157	AKD472	7.0000	2.0000	2.0000	0.5000	1500.0000	0.0 N	0.0 N	0.0 N	10.0000	700.0000
158	AKD454	15.0000	1.0000	1.5000	0.5000	1000.0000	0.0 N	0.0 N	0.0 N	10.0000	3000.0000
159	AKD602	7.0000	3.0000	2.0000	0.5000	1000.0000	0.0 N	0.0 N	0.0 N	0.0 L	1500.0000
160	AKD601	5.0000	3.0000	3.0000	0.3000	1000.0000	0.0 N	0.0 N	0.0 N	0.0 L	700.0000
161	AKD453	3.0000	1.0000	3.0000	0.3000	1000.0000	0.0 N	0.0 N	0.0 N	0.0 L	1000.0000
162	AKD662	7.0000	3.0000	3.0000	0.7000	1500.0000	0.0 N	0.0 N	0.0 N	0.0 L	1500.0000
163	AKD661	7.0000	3.0000	1.5000	0.3000	1000.0000	0.0 N	0.0 N	0.0 N	0.0 L	1000.0000
164	AKD660	10.0000	3.0000	5.0000	0.5000	1000.0000	0.0 N	0.0 N	0.0 N	10.0000	700.0000
165	AKD470	10.0000	2.0000	2.0000	0.7000	1000.0000	0.0 N	0.0 N	0.0 N	10.0000	700.0000
166	AKD420	15.0000	3.0000	2.0000	1.0000	3000.0000	0.0 N	0.0 N	0.0 N	70.0000	1500.0000
167	AKD421	15.0000	2.0000	2.0000	0.7000	2000.0000	0.0 N	0.0 N	0.0 N	10.0000	1000.0000
168	AKD425	15.0000	3.0000	3.0000	1.0000	1500.0000	0.0 N	0.0 N	0.0 N	10.0000	1000.0000
169	AKD423	10.0000	3.0000	3.0000	0.7000	2000.0000	0.0 N	0.0 N	0.0 N	0.0 L	500.0000
170	AKD424	10.0000	2.0000	2.0000	0.7000	1000.0000	0.0 N	0.0 N	0.0 N	0.0 L	700.0000
171	AKD663	10.0000	3.0000	3.0000	0.5000	1000.0000	0.0 N	0.0 N	0.0 N	0.0 L	700.0000
172	AKD657	10.0000	1.5000	2.0000	0.3000	700.0000	0.0 N	0.0 N	0.0 N	0.0 L	1000.0000
173	AKD658	7.0000	3.0000	3.0000	0.3000	1000.0000	0.0 N	0.0 N	0.0 N	0.0 L	1500.0000
174	AKD659	10.0000	3.0000	5.0000	0.5000	1500.0000	0.0 N	0.0 N	0.0 N	10.0000	1000.0000
175	AKD419	15.0000	3.0000	5.0000	0.7000	5000.0000	0.0 N	0.0 N	0.0 N	0.0 L	1500.0000
176	AKD422	15.0000	3.0000	2.0000	0.7000	1500.0000	0.0 N	0.0 N	0.0 N	0.0 L	1000.0000
177	AKD469	15.0000	3.0000	3.0000	0.7000	1000.0000	0.0 N	0.0 N	0.0 N	10.0000	700.0000

SUNDUM A-3 STREAM SEDIMENTS

SAMPLE	BE PPM	BI PPM	CD PPM	CU PPM	CR PPM	CU PPM	LA PPM	MO PPM	NB PPM	NI PPM
157	0.0 L	0.0 N	0.0 N	15.0000	30.0000	5.0000	0.0 L	0.0 L	10.0000	7.0000
AKD472	0.0 L	0.0 N	0.0 N	10.0000	70.0000	15.0000	100.0000	5.0000	10.0000	20.0000
AKD454	0.0 L	0.0 N	0.0 N	15.0000	150.0000	15.0000	70.0000	0.0 L	10.0000	30.0000
AKD602	0.0 L	0.0 N	0.0 N	15.0000	100.0000	10.0000	0.0 L	0.0 N	0.0 L	15.0000
AKD601	1.5000	0.0 N	0.0 N	5.0000	30.0000	7.0000	20.0000	0.0 N	0.0 L	10.0000
AKD453	1.0000	0.0 N	0.0 N	15.0000	70.0000	7.0000	150.0000	0.0 L	10.0000	20.0000
AKD662	1.0000	0.0 N	0.0 N	20.0000	150.0000	30.0000	50.0000	0.0 L	10.0000	70.0000
AKD661	0.0 L	0.0 N	0.0 N	20.0000	150.0000	7.0000	200.0000	0.0 L	10.0000	30.0000
AKD660	0.0 L	0.0 N	0.0 N	30.0000	30.0000	20.0000	20.0000	0.0 L	10.0000	15.0000
AKD470	1.0000	0.0 N	0.0 N	70.0000	300.0000	50.0000	20.0000	20.0000	10.0000	150.0000
AKD420	0.0 L	0.0 N	0.0 N	70.0000	150.0000	15.0000	0.0 N	0.0 L	0.0 L	50.0000
AKD421	1.0000	0.0 N	0.0 N	30.0000	150.0000	70.0000	0.0 L	5.0000	10.0000	50.0000
AKD425	1.0000	0.0 N	0.0 N	30.0000	150.0000	15.0000	0.0 L	0.0 L	10.0000	50.0000
AKD423	0.0 L	0.0 N	0.0 N	20.0000	70.0000	15.0000	0.0 N	0.0 L	10.0000	30.0000
AKD424	0.0 L	0.0 N	0.0 N	20.0000	100.0000	20.0000	30.0000	0.0 L	10.0000	20.0000
AKD663	0.0 N	0.0 N	0.0 N	20.0000	30.0000	0.0 L	20.0000	0.0 N	10.0000	7.0000
AKD657	1.0000	0.0 N	0.0 N	20.0000	100.0000	7.0000	200.0000	0.0 N	10.0000	30.0000
AKD658	3.0000	0.0 N	0.0 N	70.0000	300.0000	30.0000	20.0000	0.0 L	10.0000	30.0000
AKD659	1.5000	0.0 N	0.0 N	30.0000	150.0000	30.0000	0.0 L	0.0 L	10.0000	70.0000
AKD419	0.0 L	0.0 N	0.0 N	30.0000	70.0000	7.0000	0.0 L	0.0 L	10.0000	30.0000
AKD422	0.0 L	0.0 N	0.0 N	30.0000	70.0000	7.0000	0.0 L	0.0 L	10.0000	15.0000
AKD469										

SUMDUM A-3 STREAM SEDIMENTS

	SAMPLE	PB PPM	SB PPM	SC PPM	SN PPM	SR PPM	V PPM	W PPM	Y PPM	ZN PPM	ZR PPM
157	AKD472	20.0000	0.0 N	20.0000	0.0 N	300.0000	200.0000	0.0 N	15.0000	0.0 L	70.0000
158	AKD454	15.0000	0.0 N	10.0000	0.0 N	300.0000	500.0000	0.0 N	15.0000	0.0 L	50.0000
159	AKD602	30.0000	0.0 N	15.0000	0.0 N	1000.0000	200.0000	0.0 N	20.0000	0.0 N	70.0000
160	AKD601	20.0000	0.0 N	15.0000	0.0 N	500.0000	150.0000	0.0 N	15.0000	0.0 L	70.0000
161	AKD453	20.0000	0.0 N	10.0000	0.0 N	700.0000	150.0000	0.0 N	15.0000	0.0 N	70.0000
162	AKD662	15.0000	0.0 N	30.0000	0.0 N	700.0000	200.0000	0.0 N	50.0000	0.0 L	70.0000
163	AKD661	20.0000	0.0 N	20.0000	0.0 N	300.0000	200.0000	0.0 N	20.0000	0.0 L	70.0000
164	AKD660	15.0000	0.0 N	20.0000	0.0 N	700.0000	200.0000	0.0 N	30.0000	0.0 N	70.0000
165	AKD470	15.0000	0.0 N	30.0000	0.0 N	300.0000	300.0000	0.0 N	30.0000	0.0 L	1000.0000
166	AKD420	10.0000	0.0 N	30.0000	0.0 N	200.0000	500.0000	0.0 N	50.0000	500.0000	300.0000
167	AKD421	10.0000	0.0 N	20.0000	0.0 N	300.0000	300.0000	0.0 N	20.0000	0.0 N	100.0000
168	AKD425	20.0000	0.0 N	30.0000	0.0 N	300.0000	300.0000	0.0 N	20.0000	0.0 L	100.0000
169	AKD423	15.0000	0.0 N	30.0000	0.0 N	200.0000	300.0000	0.0 N	20.0000	0.0 L	70.0000
170	AKD424	15.0000	0.0 N	20.0000	0.0 N	300.0000	300.0000	0.0 N	15.0000	0.0 L	70.0000
171	AKD663	20.0000	0.0 N	30.0000	0.0 N	500.0000	200.0000	0.0 N	30.0000	0.0 L	150.0000
172	AKD657	15.0000	0.0 N	20.0000	0.0 N	500.0000	200.0000	0.0 N	20.0000	0.0 N	100.0000
173	AKD658	15.0000	0.0 N	20.0000	0.0 N	700.0000	200.0000	0.0 N	20.0000	0.0 N	100.0000
173	AKD659	15.0000	0.0 N	30.0000	0.0 N	700.0000	200.0000	0.0 N	30.0000	0.0 L	300.0000
174	AKD419	15.0000	0.0 N	30.0000	0.0 N	300.0000	300.0000	0.0 N	30.0000	0.0 N	100.0000
175	AKD422	20.0000	0.0 N	30.0000	0.0 N	300.0000	300.0000	0.0 N	20.0000	0.0 L	70.0000
176	AKD469	20.0000	0.0 N	30.0000	0.0 N	500.0000	300.0000	0.0 N	20.0000	0.0 N	300.0000

SUMDUM A-3 STREAM SEDIMENTS

	SAMPLE	AU PPM
157	AKD472	0.0200L
158	AKD454	0.0200L
159	AKD602	0.0200L
160	AKD601	0.0200L
161	AKD453	0.0200L
162	AKD662	0.0200L
163	AKD661	0.0200L
164	AKD660	0.0200L
165	AKD470	0.0200L
166	AKD420	0.0400L
167	AKD421	0.0400L
168	AKD425	0.0200L
169	AKD423	0.0200L
170	AKD424	0.0600
171	AKD663	0.0200L
172	AKD657	0.0200L
173	AKD658	0.0200L
174	AKD659	0.0200L
175	AKD419	0.0200L
176	AKD422	0.0200L
177	AKD469	0.0200L

FREQUENCY TABLE FOR COLUMN 1 (FE PCT)

LIMITS		FREQ	FREQ	PERCENT	PERCENT
LOWER	UPPER		CUM	FREQ	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	1	1	1.41	1.41
2.6E 00	3.8E 00	7	8	9.86	11.27
3.8E 00	5.6E 00	10	18	14.08	25.35
5.6E 00	8.3E 00	18	36	25.35	50.70
8.3E 00	1.2E 01	18	54	25.35	76.06
1.2E 01	1.8E 01	15	69	21.13	97.18
1.8E 01	2.6E 01	2	71	2.82	100.00

HISTOGRAM FOR COLUMN 1 (FE PCT)

```

2.0E 00 X
3.0E 00 XXXXXXXXXXXX
5.0E 00 XXXXXXXXXXXXXXXX
7.0E 00 XXXXXXXXXXXXXXXXXXXXXXXX
1.0E 01 XXXXXXXXXXXXXXXXXXXXXXXXXXXX
1.5E 01 XXXXXXXXXXXXXXXXXXXXXXXXXXXX
2.0E 01 XXX
    
```

N	L	H	B	T	G
0	0	0	0	0	0
0.0	0.0			0.0	0.0

ANALYTICAL
VALUES
71

MAXIMUM = 2.00000E 01

MINIMUM = 2.00000E 00

GEOMETRIC MEAN = 7.99115E 00

GEOMETRIC DEVIATION = 1.69956E 00

FREQUENCY TABLE FOR COLUMN 2 (MG PCT)

LIMITS		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
LOWER	UPPER				
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	0	0	0.0	0.0
8.3E-01	1.2E 00	9	9	12.68	12.68
1.2E 00	1.8E 00	16	25	22.54	35.21
1.8E 00	2.6E 00	23	48	32.39	67.61
2.6E 00	3.8E 00	22	70	30.99	98.59
3.8E 00	5.6E 00	1	71	1.41	100.00

HISTOGRAM FOR COLUMN 2 (MG PCT)

1.0E 00 XXXXXXXXXXXXXXXX
 1.5E 00 XXXXXXXXXXXXXXXXXXXXXXXX
 2.0E 00 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
 3.0E 00 XX
 5.0E 00 X

ANALYTICAL
VALUES
71

M L H B T G
 U 0 0 0 0 0
 0.0 0.0 0.0 0.0 0.0

MAXIMUM = 5.00000E 00
 MINIMUM = 1.00000E 00
 GEOMETRIC MEAN = 1.97189E 00
 GEOMETRIC DEVIATION = 1.46181E 00

FREQUENCY TABLE FOR COLUMN 3 (CA PCT)

LIMITS		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
LOWER	UPPER				
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	1	1	1.41	1.41
1.2E 00	1.8E 00	13	14	18.31	19.72
1.8E 00	2.6E 00	27	41	38.03	57.75
2.6E 00	3.8E 00	20	61	28.17	85.92
3.8E 00	5.6E 00	9	70	12.68	98.59
5.6E 00	8.3E 00	1	71	1.41	100.00

HISTOGRAM FOR COLUMN 3 (CA PCT)

```

1.0E 00 X
1.5E 00 XXXXXXXXXXXXXXXXXXXX
2.0E 00 XXXXXXXXXXXXXXXXXXXX
3.0E 00 XXXXXXXXXXXXXXXXXXXX
5.0E 00 XXXXXXXXXXXXXXXX
7.0E 00 X
    
```

ANALYTICAL
VALUES
71

N	L	H	B	T	G
0	0	0	0	0	0
0.0	0.0			0.0	0.0

MAXIMUM = 7.00000E 00

MINIMUM = 1.00000E 00

GEOMETRIC MEAN = 2.40780E 00

GEOMETRIC DEVIATION = 1.50047E 00

FREQUENCY TABLE FOR COLUMN 4 (TI PCT)

LIMITS		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
LOWER	UPPER				
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	18	18	25.35	25.35
3.8E-01	5.6E-01	31	49	43.66	69.01
5.6E-01	8.3E-01	19	68	26.76	95.77
8.3E-01	1.2E 00	3	71	4.23	100.00

HISTOGRAM FOR COLUMN 4 (TI PCT)

```

3.0E-01 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
5.0E-01 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
7.0E-01 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
1.0E 00 XXXX
    
```

N L H B T G
 0 0 0 0 0 0
 0.0 0.0 0.0 0.0 0.0 0.0

MAXIMUM = 1.00000E 00

MINIMUM = 3.00000E-01

GEOMETRIC MEAN = 4.94941E-01

GEOMETRIC DEVIATION = 1.41054E 00

FREQUENCY TABLE FOR COLUMN 5 (MN PPM)

LIMITS		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
LOWER	UPPER				
8.3E 00	1.2E 01	0	0	0.0	0.0
1.2E 01	1.6E 01	0	0	0.0	0.0
1.6E 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	1	1	1.41	1.41
3.8E 02	5.6E 02	1	2	1.41	2.82
5.6E 02	8.3E 02	10	12	14.08	16.90
8.3E 02	1.2E 03	33	45	46.48	63.38
1.2E 03	1.8E 03	22	67	30.99	94.37
1.8E 03	2.6E 03	2	69	2.82	97.18
2.6E 03	3.8E 03	1	70	1.41	98.59
3.8E 03	5.6E 03	1	71	1.41	100.00

HISTOGRAM FOR COLUMN 5 (MN PPM)

```

3.0E 02 X
5.0E 02 X
7.0E 02 XXXXXXXXXXXXXXXX
1.0E 03 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
1.5E 03 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
2.0E 03 XXX
3.0E 03 X
5.0E 03 X
    
```

ANALYTICAL
VALUES
71

N	L	H	B	T	C
0	0	0	0	0	0
0.0	0.0	0.0	0.0	0.0	0.0

MAXIMUM = 5.0000E 03
MINIMUM = 3.0000E 02
GEOMETRIC MEAN = 1.11220E 03
GEOMETRIC DEVIATION = 1.48023E 00

FREQUENCY TABLE FOR COLUMN 6 (AG PPM)

LIMITS
LOWER - UPPER

FREQ FREQ PERCENT PERCENT
CUM CUM FREQ FREQ CUM

N	L	H	B	T	G	ANALYTICAL VALUES
71	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 7 (AS PPM)

LIMITS		FREQ	FREQ	PERCENT	PERCENT
LOWER	UPPER		CUM	FREQ	FREQ CUM

N	L	H	B	T	G	ANALYTICAL
71	0	0	0	0	0	VALUES
****	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 8 (AU PPM)

LIMITS		FREQ	FREQ	PERCENT	PERCENT	ANALYTICAL	
LOWER	UPPER	CUM	CUM	FREQ	FREQ	G	VALUES
N	L	H	B	T	G		
71	0	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		FREQ	FREQ	PERCENT	PERCENT
LOWER	UPPER		CUM	FREQ	FREQ CUM
8.3E 00	- 1.2E 01	22	22	30.99	30.99
1.2E 01	- 1.8E 01	9	31	12.68	43.66
1.8E 01	- 2.6E 01	0	31	0.0	43.66
2.6E 01	- 3.8E 01	0	31	0.0	43.66
3.8E 01	- 5.6E 01	0	31	0.0	43.66
5.6E 01	- 8.3E 01	1	32	1.41	45.07

HISTOGRAM FOR COLUMN 9 (B PPM)

```

1.0E 01 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
1.5E 01 XXXXXXXXXXXXXXXX
2.0E 01
3.0E 01
5.0E 01
7.0E 01 X
    
```

N	L	H	B	T	G
1	38	0	0	0	0
1.41	53.52			0.0	0.0

ANALYTICAL
VALUES
32

MAXIMUM = 7.00000E 01

MINIMUM = 1.00000E 01

GEOMETRIC MEAN = 1.19104E 01

GEOMETRIC DEVIATION = 1.45059E 00

74

FREQUENCY TABLE FOR COLUMN 10 (BA PPM)

LIMITS		FREQ	FREQ	PERCENT	PERCENT
LOWER	UPPER		CUM	FREQ	FREQ CUM
1.4E 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	1.41	1.41
2.6E 02	3.8E 02	2	3	2.82	4.23
3.8E 02	5.6E 02	3	6	4.23	8.45
5.6E 02	8.3E 02	37	43	52.11	60.56
8.3E 02	1.2E 03	17	60	23.94	84.51
1.2E 03	1.8E 03	10	70	14.08	98.59
1.8E 03	2.6E 03	0	70	0.0	98.59
2.6E 03	3.8E 03	1	71	1.41	100.00

HISTOGRAM FOR COLUMN 10 (BA PPM)

2.0E 02 X
 3.0E 02 XXX
 5.0E 02 XXXX
 7.0E 02 XXX
 1.0E 03 XXXXXXXXXXXXXXXXXXXXXXX
 1.5E 03 XXXXXXXXXXXXXXX
 2.0E 03
 3.0E 03 X

75

N	L	H	B	T	G	ANALYTICAL VALUES
0	0	0	0	0	0	71
0.0	0.0			0.0	0.0	

MAXIMUM = 3.00000E 03

MINIMUM = 2.00000E 02

GEOMETRIC MEAN = 8.19406E 02

GEOMETRIC DEVIATION = 1.50413E 00

FREQUENCY TABLE FOR COLUMN 11 (BE PPM)

LIMITS		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
LOWER - UPPER					
8.3E-01 -	1.2E 00	16	16	22.54	22.54
1.2E 00 -	1.8E 00	5	21	7.04	29.58
1.8E 00 -	2.6E 00	0	21	0.0	29.58
2.6E 00 -	3.8E 00	1	22	1.41	30.99

HISTOGRAM FOR COLUMN 11 (BE PPM)

1.0E 00 XXXXXXXXXXXXXXXXXXXXXXXX
 1.5E 00 XXXXXXXX
 2.0E 00
 3.0E 00 X

N	L	H	B	T	G	ANALYTICAL VALUES
3	46	0	0	0	0	22
4.23	64.79			0.0	0.0	

MAXIMUM = 3.00000E 00

MINIMUM = 1.00000E 00

GEOMETRIC MEAN = 1.15268E 00

GEOMETRIC DEVIATION = 1.31615E 00

FREQUENCY TABLE FOR COLUMN 12 (BI PPM)

LIMITS		FREQ	FREQ	PERCENT	PERCENT	ANALYTICAL	
LOWER	UPPER	CUM	CUM	FREQ	FREQ	T	G
N	L	H	B				
71	0	0	0	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 PERCENT
CUM FREQ FREQ CUM

N	L	H	B	T	C	ANALYTICAL VALUES
71	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 14 (CO PPM)

LIMITS		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
3.8E 00 -	5.6E 00	4	4	5.63	5.63
5.6E 00 -	8.3E 00	0	4	0.0	5.63
8.3E 00 -	1.2E 01	6	10	8.45	14.08
1.2E 01 -	1.8E 01	21	31	29.58	43.66
1.8E 01 -	2.6E 01	22	53	30.99	74.65
2.6E 01 -	3.8E 01	15	68	21.13	95.77
3.8E 01 -	5.6E 01	0	68	0.0	95.77
5.6E 01 -	8.3E 01	3	71	4.23	100.00

HISTOGRAM FOR COLUMN 14 (CO PPM)

```

5.0E 00 XXXXXX
7.0E 00
1.0E 01 XXXXXXXX
1.5E 01 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
2.0E 01 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
3.0E 01 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
5.0E 01
7.0E 01 XXXX
    
```

ANALYTICAL VALUES T1

N	L	H	B	T	G
0	0	0	0	0	0
0.0	0.0			0.0	0.0

MAXIMUM = 7.00000E 01
 MINIMUM = 5.00000E 00
 GEOMETRIC MEAN = 1.84036E 01
 GEOMETRIC DEVIATION = 1.68355E 00

FREQUENCY TABLE FOR COLUMN 15 (CR PPM)

LIMITS		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
LOWER	UPPER				
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	3	3	4.23	4.23
1.2E 01	1.8E 01	4	7	5.63	9.86
1.8E 01	2.6E 01	2	9	2.82	12.68
2.6E 01	3.8E 01	12	21	16.90	29.58
3.8E 01	5.6E 01	4	25	5.63	35.21
5.6E 01	8.3E 01	13	38	18.31	53.52
8.3E 01	1.2E 02	14	52	19.72	73.24
1.2E 02	1.8E 02	16	68	22.54	95.77
1.8E 02	2.6E 02	1	69	1.41	97.18
2.6E 02	3.8E 02	2	71	2.82	100.00

HISTOGRAM FOR COLUMN 15 (CR PPM)

```

1.0E 01 XXXX
1.5E 01 XXXXXX
2.0E 01 XXX
3.0E 01 XXXXXXXXXXXXXXXXXXXX
5.0E 01 XXXXXX
7.0E 01 XXXXXXXXXXXXXXXXXXXX
1.0E 02 XXXXXXXXXXXXXXXXXXXX
1.5E 02 XXXXXXXXXXXXXXXXXXXX
2.0E 02 X
3.0E 02 XXX
    
```

		N	L	H	B	T	G	ANALYTICAL VALUES
0.0	0.0	0	0	0	0	0	0	71
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

MAXIMUM = 3.00000E 02
 MINIMUM = 1.00000E 01
 GEOMETRIC MEAN = 6.53583E 01
 GEOMETRIC DEVIATION = 2.31142E 00

FREQUENCY TABLE FOR COLUMN 16 (CU PPM)

LIMITS		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
LOWER	UPPER				
3.8E 00	5.6E 00	6	6	8.45	8.45
5.6E 00	8.3E 00	12	18	16.90	25.35
8.3E 00	1.2E 01	13	31	18.31	43.66
1.2E 01	1.8E 01	14	45	19.72	63.38
1.8E 01	2.6E 01	4	49	5.63	69.01
2.6E 01	3.8E 01	11	60	15.49	84.51
3.8E 01	5.6E 01	3	63	4.23	88.73
5.6E 01	8.3E 01	2	65	2.82	91.55

HISTOGRAM FOR COLUMN 16 (CU PPM)

```

5.0E 00 XXXXXXXX
7.0E 00 XXXXXXXXXXXXXXXX
1.0E 01 XXXXXXXXXXXXXXXX
1.5E 01 XXXXXXXXXXXXXXXX
2.0E 01 XXXXXX
3.0E 01 XXXXXXXXXXXXXXXX
5.0E 01 XXXX
7.0E 01 XXX
    
```

ANALYTICAL VALUES

N	L	H	B	T	G
0.0	6	0	0	0	0
	8.45			0.0	0.0

MAXIMUM = 7.00000E 01
 MINIMUM = 5.00000E 00
 GEOMETRIC MEAN = 1.37742E 01
 GEOMETRIC DEVIATION = 1.99643E 00

FREQUENCY TABLE FOR COLUMN 17 (LA PPM)

LIMITS		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
LOWER	UPPER				
1.8E 01 -	2.6E 01	16	16	22.54	22.54
2.6E 01 -	3.8E 01	10	26	14.08	36.62
3.8E 01 -	5.6E 01	2	28	2.82	39.44
5.6E 01 -	8.3E 01	2	30	2.82	42.25
8.3E 01 -	1.2E 02	2	32	2.82	45.07
1.2E 02 -	1.8E 02	8	40	11.27	56.34
1.8E 02 -	2.6E 02	2	42	2.82	59.15

HISTOGRAM FOR COLUMN 17 (LA PPM)

2.0E 01 XXXXXXXXXXXXXXXXXXXXXXXX
 3.0E 01 XXXXXXXXXXXXXXXXXXXXXXXX
 5.0E 01 XXX
 7.0E 01 XXX
 1.0E 02 XXX
 1.5E 02 XXXXXXXXXXXXXXXX
 2.0E 02 XXX

ANALYTICAL
VALUES
42

T 0 0 0.0
G 0 0 0.0

H 0 0
B 0 0

L 21 29.58
N 8 11.27

MAXIMUM = 2.00000E 02

MINIMUM = 2.00000E 01

GEOMETRIC MEAN = 4.31906E 01

GEOMETRIC DEVIATION = 2.34668E 00

FREQUENCY TABLE FOR COLUMN 18 (MD PPM)

LIMITS		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
LOWER	UPPER				
3.8E 00	5.6E 00	4	4	5.63	5.63
5.6E 00	8.3E 00	0	4	0.0	5.63
8.3E 00	1.2E 01	0	4	0.0	5.63
1.2E 01	1.8E 01	0	4	0.0	5.63
1.8E 01	2.6E 01	1	5	1.41	7.04

HISTOGRAM FOR COLUMN 18 (MD PPM)

5.0E 00 XXXXXX
 7.0E 00
 1.0E 01
 1.5E 01
 2.0E 01 X

N	L	H	B	T	G	ANALYTICAL VALUES
11	55	0	0	0	0	5
15.49	77.46			0.0	0.0	

MAXIMUM = 2.00000E 01
 MINIMUM = 5.00000E 00
 GEOMETRIC MEAN = 6.59753E 00
 GEOMETRIC DEVIATION = 1.85887E 00

FREQUENCY TABLE FOR COLUMN 20 (NI PPM)

LIMITS		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
LOWER	UPPER				
3.8E 00	5.6E 00	1	1	1.41	1.41
5.6E 00	8.3E 00	4	5	5.63	7.04
8.3E 00	1.2E 01	8	13	11.27	18.31
1.2E 01	1.8E 01	15	28	21.13	39.44
1.8E 01	2.6E 01	11	39	15.49	54.93
2.6E 01	3.8E 01	19	58	26.76	81.69
3.8E 01	5.6E 01	5	63	7.04	88.73
5.6E 01	8.3E 01	3	66	4.23	92.96
8.3E 01	1.2E 02	0	66	0.0	92.96
1.2E 02	1.8E 02	1	67	1.41	94.37

HISTOGRAM FOR COLUMN 20 (NI PPM)

```

5.0E 00 X
7.0E 00 XXXXXX
1.0E 01 XXXXXXXXXXXXX
1.5E 01 XXXXXXXXXXXXXXXXXXXX
2.0E 01 XXXXXXXXXXXXXXXX
3.0E 01 XXXXXXXXXXXXXXXXXXXXXXXXXXXX
5.0E 01 XXXXXXXX
7.0E 01 XXXX
1.0E 02
1.5E 02 X
    
```

ANALYTICAL
VALUES
67

N 0
 L 4
 H 0
 B 0
 T 0
 G 0
 0.0 5.63 0.0 0.0 0.0
 MAXIMUM = 1.50000E 02
 MINIMUM = 5.00000E 00
 GEOMETRIC MEAN = 2.01949E 01
 GEOMETRIC DEVIATION = 1.90485E 00

FREQUENCY TABLE FOR COLUMN 21 (PB PPM)

LIMITS		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
LOWER	UPPER				
8.3E 00	1.2E 01	13	13	18.31	18.31
1.2E 01	1.8E 01	28	41	39.44	57.75
1.8E 01	2.6E 01	21	62	29.58	87.32
2.6E 01	3.8E 01	4	66	5.63	92.96

HISTOGRAM FOR COLUMN 21 (PB PPM)

```

1.0E 01 XXXXXXXXXXXXXXXXXXXXXXXX
1.5E 01 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
2.0E 01 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
3.0E 01 XXXXXX
    
```

N	L	H	B	T	G	ANALYTICAL VALUES
0	5	0	0	0	0	66
0.0	7.04			0.0	0.0	0.0

MAXIMUM = 3.00000E 01

MINIMUM = 1.00000E 01

GEOMETRIC MEAN = 1.58270E 01

GEOMETRIC DEVIATION = 1.34144E 00

FREQUENCY TABLE FOR COLUMN 22 (SB PPM)

LIMITS LOWER - UPPER	N	L	H	FREQ	FREQ CUM	B	T	G	ANALYTICAL VALUES
71	0	0	0	0	0	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		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
LOWER	UPPER				
3.8E 00	5.6E 00	1	1	1.41	1.41
5.6E 00	8.3E 00	1	2	1.41	2.82
8.3E 00	1.2E 01	2	4	2.82	5.63
1.2E 01	1.8E 01	16	20	22.54	28.17
1.8E 01	2.6E 01	24	44	33.80	61.97
2.6E 01	3.8E 01	27	71	38.03	100.00

HISTOGRAM FOR COLUMN 23 (SC PPM)

```

5.0E 00 X
7.0E 00 X
1.0E 01 XXX
1.5E 01 XXXXXXXXXXXXXXXXXXXXXXXX
2.0E 01 XXXXXXXXXXXXXXXXXXXXXXXX
3.0E 01 XXXXXXXXXXXXXXXXXXXXXXXX

```

N L H B T G
0 0 0 0 0 0
0.0 0.0

ANALYTICAL
VALUES
71

88

MAXIMUM = 3.00000E 01

MINIMUM = 5.00000E 00

GEOMETRIC MEAN = 2.07229E 01

GEOMETRIC DEVIATION = 1.44995E 00

FREQUENCY TABLE FOR COLUMN 24 (SM PPM)

LIMITS		FREQ	FREQ	PERCENT	PERCENT	ANALYTICAL		
LOWER	UPPER	CUM	CUM	FREQ	FREQ	FREQ	CUM	VALUES
N	L	H	B	T	G			
71	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		FREQ	FREQ	PERCENT	PERCENT
LOWER	UPPER		CUM	FREQ	FREQ CUM
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	7	7	9.86	9.86
2.6E 02	3.8E 02	28	35	39.44	49.30
3.8E 02	5.6E 02	20	55	28.17	77.46
5.6E 02	8.3E 02	15	70	21.13	98.59
8.3E 02	1.2E 03	1	71	1.41	100.00

HISTOGRAM FOR COLUMN 25 (SR PPM)

```

2.0E 02 XXXXXXXXXXXX
3.0E 02 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
5.0E 02 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
7.0E 02 XXXXXXXXXXXXXXXXXXXXXXXX
1.0E 03 X
    
```

N	L	H	S	T	G	ANALYTICAL
0	0	0	0	0	0	VALUES
0.0	0.0			0.0	0.0	71

MAXIMUM = 1.00000E 03
 MINIMUM = 2.00000E 02
 GEOMETRIC MEAN = 4.04902E 02
 GEOMETRIC DEVIATION = 1.51809E 00

06

FREQUENCY TABLE FOR COLUMN 26 (V PPM)

LIMITS		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
LOWER	- UPPER				
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	1.41	1.41
8.3E 01	- 1.2E 02	2	3	2.82	4.23
1.2E 02	- 1.8E 02	12	15	16.90	21.13
1.8E 02	- 2.6E 02	23	38	32.39	53.52
2.6E 02	- 3.8E 02	26	64	36.62	90.14
3.8E 02	- 5.6E 02	7	71	9.86	100.00

HISTOGRAM FOR COLUMN 26 (V PPM)

```

7.0E 01 X
1.0E 02 XXX
1.5E 02 XXXXXXXXXXXXXXXXXX
2.0E 02 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
3.0E 02 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
5.0E 02 XXXXXXXXXXXX

```

N	L	H	B	T	G	ANALYTICAL VALUES
0.0	0	0	0	0	0	71
0.0	0.0	0	0	0.0	0.0	0.0

MAXIMUM = 5.00000E 02
 MINIMUM = 7.00000E 01
 GEOMETRIC MEAN = 2.33734E 02
 GEOMETRIC DEVIATION = 1.49925E 00

FREQUENCY TABLE FOR COLUMN 27 (W PPM)

LIMITS		FREQ	FREQ	PERCENT	PERCENT	ANALYTICAL	
LOWER	UPPER	CUM	CUM	FREQ	FREQ	G	VALUES
N	L	H	B	T	G		
71	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		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
LOWER	UPPER				
8.3E 00 -	1.2E 01	5	5	7.04	7.04
1.2E 01 -	1.8E 01	20	25	28.17	35.21
1.8E 01 -	2.6E 01	27	52	38.03	73.24
2.6E 01 -	3.8E 01	15	67	21.13	94.37
3.8E 01 -	5.6E 01	3	70	4.23	98.59
5.6E 01 -	8.3E 01	0	70	0.0	98.59
8.3E 01 -	1.2E 02	0	70	0.0	98.59
1.2E 02 -	1.8E 02	1	71	1.41	100.00

HISTOGRAM FOR COLUMN 28 (Y PPM)

```

1.0E 01 XXXXXXXX
1.5E 01 XXXXXXXXXXXXXXXXXXXXXXXXXXXX
2.0E 01 XXXXXXXXXXXXXXXXXXXXXXXXXXXX
3.0E 01 XXXXXXXXXXXXXXXXXXXXXXXXXXXX
5.0E 01 XXXX
7.0E 01
1.0E 02
1.5E 02 X
    
```

ANALYTICAL
VALUES
71

N	L	H	B	T	G
0	0	0	0	0	0
0.0	0.0			0.0	0.0

MAXIMUM = 1.5000E 02

MINIMUM = 1.0000E 01

GEOMETRIC MEAN = 2.04631E 01

GEOMETRIC DEVIATION = 1.54045E 00

FREQUENCY TABLE FOR COLUMN 29 (ZN PPM)

LIMITS		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
LOWER	UPPER				
1.8E 02	2.6E 02	0	0	0.0	0.0
2.6E 02	3.8E 02	1	1	1.41	1.41
3.8E 02	5.6E 02	1	2	1.41	2.82

HISTOGRAM FOR COLUMN 29 (ZN PPM)

3.0E 02 X
5.0E 02 X

N	L	H	B	T	G	ANALYTICAL VALUES
29	40	0	0	0	0	2
40.85	56.34			0.0	0.0	

MAXIMUM = 5.00000E 02

MINIMUM = 3.00000E 02

GEOMETRIC MEAN = 3.87297E 02

GEOMETRIC DEVIATION = 1.43510E 00

FREQUENCY TABLE FOR COLUMN 30 (ZR PPM)

LIMITS		FREQ	FREQ	PERCENT	PERCENT
LOWER	UPPER		CUM	FREQ	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	1	1	1.41	1.41
5.6E 01	8.3E 01	27	28	38.03	39.44
8.3E 01	1.2E 02	11	39	15.49	54.93
1.2E 02	1.8E 02	4	43	5.63	60.56
1.8E 02	2.6E 02	6	49	8.45	69.01
2.6E 02	3.8E 02	11	60	15.49	84.51
3.8E 02	5.6E 02	6	66	8.45	92.96
5.6E 02	8.3E 02	2	68	2.82	95.77
8.3E 02	1.2E 03	3	71	4.23	100.00

HISTOGRAM FOR COLUMN 30 (ZR PPM)

```

5.0E 01 X
7.0E 01 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
1.0E 02 XXXXXXXXXXXXXXXX
1.5E 02 XXXXXX
2.0E 02 XXXXXXXX
3.0E 02 XXXXXXXXXXXXXXXX
5.0E 02 XXXXXXXX
7.0E 02 XXX
1.0E 03 XXXX
    
```

N	L	H	B	T	G
0	0	0	0	0	0
0.0	0.0			0.0	0.0

ANALYTICAL
VALUES
71

MAXIMUM = 1.00000E 03

MINIMUM = 5.00000E 01

GEOMETRIC MEAN = 1.48339E 02

GEOMETRIC DEVIATION = 2.30292E 00

FREQUENCY TABLE FOR COLUMN 31 (AU PPM)

LIMITS		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
LOWER	UPPER				
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	1	1	1.41	1.41

HISTOGRAM FOR COLUMN 31 (AU PPM)

7.0E-02 X

N	L	H	B	T	G	ANALYTICAL VALUES
0	70	0	0	0	0	1
0.0	98.59			0.0	0.0	

MAXIMUM = 6.00000E-02

MINIMUM = 6.00000E-02

GEOMETRIC MEAN = 6.00001E-02

GEOMETRIC DEVIATION = 9.99900E 48

A470 STATISTICAL SUMMARY

DATE 4/22/70

ELEMENT	N	L	H	B	T	G	ANALYTICAL VALUES
FE PCT	0	0	0	0	0	0	71
MG PCT	0	0	0	0	0	0	71
CA PCT	0	0	0	0	0	0	71
TI PCT	0	0	0	0	0	0	71
MN PPM	0	0	0	0	0	0	71
AG PPM	71	0	0	0	0	0	0
AS PPM	71	0	0	0	0	0	0
AU PPM	71	0	0	0	0	0	0
B PPM	1	38	0	0	0	0	32
BA PPM	0	0	0	0	0	0	71
BE PPM	3	46	0	0	0	0	22
BI PPM	71	0	0	0	0	0	0
BT PPM	71	0	0	0	0	0	0
CD PPM	0	0	0	0	0	0	0
CE PPM	0	0	0	0	0	0	71
CR PPM	0	0	0	0	0	0	71
CU PPM	0	6	0	0	0	0	65
LA PPM	8	21	0	0	0	0	42
MO PPM	11	55	0	0	0	0	5
NB PPM	0	12	0	0	0	0	59
NI PPM	0	4	0	0	0	0	67
NT PPM	0	5	0	0	0	0	66
PB PPM	0	0	0	0	0	0	0
SB PPM	71	0	0	0	0	0	71
SC PPM	0	0	0	0	0	0	0
SN PPM	71	0	0	0	0	0	71
SR PPM	0	0	0	0	0	0	0
V PPM	0	0	0	0	0	0	71
W PPM	71	0	0	0	0	0	0
Y PPM	0	0	0	0	0	0	71
ZN PPM	29	40	0	0	0	0	2
ZR PPM	0	0	0	0	0	0	71
AU PPM	0	70	0	0	0	0	1

ELEMENT	GEOMETRIC MEAN	GEOMETRIC DEVIATION	REMARKS
FE PCT	7.991143	1.70	71 SAMPLES AND 71 ANALYTICAL VALUES.
MG PCT	1.971889	1.46	71 SAMPLES AND 71 ANALYTICAL VALUES.
CA PCT	2.407798	1.50	71 SAMPLES AND 71 ANALYTICAL VALUES.
TI PCT	0.494941	1.41	71 SAMPLES AND 71 ANALYTICAL VALUES.
MN PPM	1112.194580	1.48	71 SAMPLES AND 71 ANALYTICAL VALUES.
AG PPM	0	*****	71 NOT DETECTED; LESS THAN, OR TRACE VALUES.
AS PPM	0	*****	71 NOT DETECTED; LESS THAN, OR TRACE VALUES.
AU PPM	0	*****	71 NOT DETECTED; LESS THAN, OR TRACE VALUES.
BA PPM	819.403809	1.50	71 SAMPLES AND 71 ANALYTICAL VALUES.
BE PPM	0.635214	1.69	49 NOT DETECTED; LESS THAN, OR TRACE VALUES.
BI PPM	*****	*****	71 NOT DETECTED; LESS THAN, OR TRACE VALUES.
BT PPM	*****	*****	71 NOT DETECTED; LESS THAN, OR TRACE VALUES.
CD PPM	*****	*****	71 NOT DETECTED; LESS THAN, OR TRACE VALUES.
CE PPM	18.403549	1.68	71 SAMPLES AND 71 ANALYTICAL VALUES.
CR PPM	65.358078	2.31	71 SAMPLES AND 71 ANALYTICAL VALUES.
CU PPM	11.984909	2.25	6 NOT DETECTED; LESS THAN, OR TRACE VALUES.
LA PPM	21.017441	3.22	29 NOT DETECTED; LESS THAN, OR TRACE VALUES.
MO PPM	*****	*****	66 NOT DETECTED; LESS THAN, OR TRACE VALUES.
NB PPM	9.623343	1.09	12 NOT DETECTED; LESS THAN, OR TRACE VALUES.
NI PPM	18.600845	2.18	4 NOT DETECTED; LESS THAN, OR TRACE VALUES.
PB PPM	14.965343	1.42	5 NOT DETECTED; LESS THAN, OR TRACE VALUES.

