UNITED STATES DEPARTMENT OF THE INTERIOR

GEOLOGICAL SURVEY

RESULTS OF STREAM SEDIMENT SAMPLING IN THE NORTHERN MELOZITNA, THE HUGHES, AND THE SOUTHERN SHUNGNAK QUADRANGLES, WEST-CENTRAL ALASKA

By

Thomas P. Miller

Open-file report

1969

69-169

INTRODUCTION

Analytical data for 267 stream sediment samples from the northern Melozitna, the Hughes, and the southern Shungnak 1:250,000-scale quadrangles are presented in this report together with a statistical treatment of the data. Most of the samples were collected in 1967 during investigations conducted as part of the Heavy Metals program of the U.S. Geological Survey. This report is intended to supplement Geological Survey Circular 570 (Miller and Ferrians, 1968) which discussed several localities in this region where anomalous amounts of metals were found, and to provide background data concerning the abundance of certain elements in stream sediments of this area.

Recent geologic maps of the region have been published by Patton and Miller (1966), Patton, Miller, and Tailleur (1968), and Miller and Ferrians (1968) and should be referred to for a more thorough discussion of the geology. In general, however, streams from which the samples were taken drain one or more of the following units: (a) quartz monzonite, granodiorite, and syenite of mid-Cretaceous age, (b) volcanic rocks, ranging in composition from andesite to rhyolite and in age from Late Jurassic(?)-Early Cretaceous to Late Cretaceous, and (c) volcanic graywacke and intercalated mudstone of Early Cretaceous age.

PROCEDURES AND TREATMENT OF DATA

Standard procedures were followed in the collection and preparation of the stream sediment samples. The samples were generally collected from the active stream channel; where this was not possible, the samples were collected from stream deposits adjacent to the active channel. The

samples were dried, sieved, and the minus 80 mesh fractions were analyzed for 30 elements by the six-step semiquantitative spectrographic method and for gold by the atomic absorption method. 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. Minimum limits of detection for each element are given on page 5. Semiquantitative spectrographic analyses were done by Arnold Farley, Jr., J. M. Motooka, G. W. Sears, Jr., and Chris Heropoulos, and atomic-absorption analyses were done by W. L. Campbell, R. L. Miller, T. A. Roemer, A. L. Meier, and M. S. Rickard.

Locations of the stream sediment samples are shown on figure 1. The samples are grouped in table 1 according to the 1:63,360-scale quadrangle in which they occur. The order of listing of the quadrangles is Melozitna D-2, D-3, D-4, D-5, Hughes A-2, A-3, A-6, B-6, C-4, D-4, and Shungnak A-1, A-2, A-3, A-4, B-1, B-2, B-3, B-4, B-5, B-6, C-2, C-3.

The results of the stream sediment sampling program have been processed by means of a computer program known as GEOSUM and are presented in table 1. 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 listing of the data, (b) histograms and cumulative frequency distributions for all elements except gold, antimony,

arsenic, tungsten, and cadmium,[1] and (c) a statistical summary which includes geometric means and geometric deviations.

RESULTS

Examination of the histograms of the various elements indicates that most of the elements for which sufficient data is available have a roughly log-normal distribution. Lead, copper, and strontium are good examples of this type of distribution. A few elements such as titanium and chromium have a bi-modal type of distribution. On the basis of these histograms, anomalous values are suggested for several elements of possible economic interest. These are as follows: copper (Cu), 100 ppm; lead (Pb), 70 ppm; beryllium (Be), 3 ppm; manganese (Mn), 2,000 ppm; boron (B), 70 ppm; nickel (Ni), 100 ppm; chromium (Cr), 200 ppm; cobalt (Co), 50 ppm; molybdenum (Mo), 5 ppm. Any reported value for silver, zinc, tin, and bismuth is regarded as significant. It should be emphasized that the stream sediment sampling was of a reconnaissance nature and particular attention was paid to the contact zones of granitic plutons. This bias undoubtedly influenced the frequency distribution pattern. The selection of these concentrations as anomalous values is, therefore, subjective and interpretive on the part of the author.

---

[1] The frequency table and histogram for gold have been omitted since the classes used in calculating these tables are those used in the semiquantitative spectrographic method and the gold was analyzed for by the quantitative atomic absorption method. Gold was found in only 13 of 267 samples (5%). The statistical summaries for antimony, arsenic, tungsten, and cadmium were omitted because no values for these elements were reported.

ANOMALOUS AREAS

The stream sediment sampling showed several areas of anomalous concentrations of metals. The more significant of these have already been discussed in Miller and Ferrians (1968); these include the anomalies at Hawk River (Pb-Ag), the Dakli area in the northern Zane Hills (Cu), the Clear Creek area in the eastern Zane Hills (Cu-Pb-Au), and Indian Mountain-Utopia Creek (Pb-Zn-Ag-Cu). Other anomalies are as follows: (a) the Norutak Hills (northern Hughes quadrangle)--low but anomalous amounts of zinc, molybdenum, copper, and silver occur in streams (samples 67AMm308, 318, 319) draining two intensely oxidized pyritiferous soda rhyolite bodies. Analyses of grab samples of rhyolite show up to 500 ppm zinc, 300 ppm copper, and 50 ppm molybdenum; (b) the upper Selawik River (central Shungnak quadrangle)--two streams draining an area of Lower Cretaceous volcanic rocks (samples 67AMm244, 245, Shungnak C-2 quadrangle) on the north side of the Selawik River contain low but anomalous amounts of copper and silver, and (c) a sediment sample (67AMm102, Shungnak A-2 quadrangle) from the southeastern Shungnak quadrangle contained anomalous amounts of lead (150 ppm) and silver (1.5 ppm). This stream drains the contact between the quartz monzonite of the Wheeler Creek pluton and the wallrock andesite.

There are other areas where one or more elements occur in amounts above what the histograms suggest is background, but the values reported are not particularly high nor is there any significant grouping of anomalous elements or sample localities.

EXPLANATION OF TABLE 1.

The results of the analyses of the stream sediment samples are given in Table 1 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, or T = trace. Note that the right-most zero digits for each analytical value are not 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	0.00100	10.00000	0.50000
AS PPM	AU PPM	B PPM	BA PPM	BE PPM	BI PPM
200.00000	0.02000	5.00000	5.00000	1.00000	10.00000
CO PPM	CR PPM	CU PPM	LA PPM	MO PPM	NB PPM
3.00000	5.00000	5.00000	20.00000	3.00000	10.00000
NI PPM	PB PPM	SB PPM	SC PPM	SN PPM	SR PPM
2.00000	10.00000	100.00000	5.00000	10.00000	100.00000
V PPM	W PPM	Y PPM	ZN PPM	ZR PPM	
10.00000	50.00000	5.00000	200.00000	10.00000	

As has been mentioned, 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 brackets 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

The statistics given below the histograms are derived only from data values within the ranges of analytical determination (analytical values), and are, therefore, biased if data values qualified with N, L, G, T, or H codes are present. Statistical estimates that are unbiased in this regard are given at the end of Table 1. The geometric mean is the antilogarithim 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 and is of no value in estimating reserves or total amounts of elements present. The geometric deviation is the antilogarithim 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 Table 1, 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 to geochemical problems is described in USGS Professional Paper 574-B. The estimates are unbiased in a strict sense only where the data are derived from a lognormal parent population, but experiments have shown that large departures from this requirement may not greatly invalidate the results. Acceptance and use of the estimates, however, is the responsibility of the individual.

References cited

Patton, W. W., Jr., and Miller, T. P., 1966, Regional geologic map of the Hughes quadrangle, Alaska: U.S. Geol. Survey Misc. Geol. Inv. Map I-459, scale 1:250,000.

Patton, W. W., Jr., Miller, T. P., and Tailleur, I. L., 1968, Regional geologic map of the Shungnak and southern part of the Ambler River quadrangles, Alaska: U.S. Geol. Survey Misc. Geol. Inv. Map I-554, scale 1:250,000.

Miller, T. P., and Ferrians, O. J., Jr., 1968, Suggested areas for prospecting in the central Koyukuk River region, Alaska: U.S. Geol. Survey Circ. 570, 12 p.

TABLE 1. SED. SAMPLE ANALYSES

QUAD	SAMPLE	FE PCT	MG PCT	CA PCT	TI PCT	MN PPM	AG PPM	AS PPM	AU PPM	B PPM	BA PPM
MD-2	67AMM343	7.0000	1.0000	0.7000	0.5000	500.0000	3.0000	0.0 N	0.0700	20.0000	7000.0000
	67AMM356	3.0000	0.5000	1.0000	0.5000	300.0000	0.0 N	0.0 N	0.0 B	20.0000	700.0000
	67AMM357	2.0000	0.3000	1.0000	0.5000	700.0000	0.0 N	0.0 N	0.0 B	30.0000	500.0000
	67AMM346	5.0000	1.0000	0.1500	0.5000	150.0000	0.0 N	0.0 N	0.0 N	20.0000	3000.0000
MD-3	67AMM290	0.7000	2.0000	7.0000	0.7000	1000.0000	0.0 N	0.0 N	0.0 N	30.0000	2000.0000
	67AMM291	7.0000	2.0000	7.0000	0.7000	1500.0000	0.0 N	0.0 N	0.0 N	0.0 N	2000.0000
	67AMM292	7.0000	2.0000	7.0000	1.5000	3000.0000	0.0 N	0.0 N	0.0 N	70.0000	2000.0000
	67AMM293	5.0000	0.7000	0.7000	0.5000	500.0000	0.0 N	0.0 N	0.0 N	70.0000	1000.0000
MD-4	67AMM5	3.0000	0.7000	0.7000	0.7000	300.0000	0.0 N	0.0 N	0.0 N	100.0000	300.0000
	67AMM6	5.0000	0.7000	0.7000	0.5000	500.0000	0.0 N	0.0 N	0.0 N	70.0000	300.0000
MD-5	67AMM8	3.0000	0.7000	0.7000	0.3000	300.0000	0.0 N	0.0 N	0.0 N	70.0000	300.0000
	67AMM9	3.0000	0.7000	0.7000	0.5000	200.0000	0.0 N	0.0 N	0.0 N	70.0000	500.0000
	67AMM10	5.0000	0.7000	0.7000	0.5000	100.0000	0.0 N	0.0 N	0.0 N	70.0000	300.0000
HA-2	67AMM355	5.0000	1.0000	1.5000	0.7000	1500.0000	0.0 N	0.0 N	0.0 B	50.0000	700.0000
	67AMM193	7.0000	1.0000	1.5000	0.3000	1500.0000	0.0 N	0.0 N	0.0 N	50.0000	1500.0000
	67AMM304	7.0000	3.0000	7.0000	0.7000	1500.0000	0.0 N	0.0 N	0.0 N	0.0 N	2000.0000
	67AMM303	7.0000	2.0000	5.0000	0.5000	1000.0000	0.0 N	0.0 N	0.0 N	30.0000	1500.0000
	67AMM305	7.0000	2.0000	5.0000	0.7000	1000.0000	0.0 N	0.0 N	0.0 N	0.0 N	3000.0000
	67AMM302	7.0000	1.5000	7.0000	0.5000	700.0000	0.0 N	0.0 N	0.0 N	0.0 N	2000.0000
	67AMM298	7.0000	1.5000	5.0000	0.5000	700.0000	0.0 N	0.0 N	0.0 N	0.0 N	3000.0000
	67AMM296	7.0000	1.5000	1.5000	0.5000	1000.0000	0.0 N	0.0 N	0.0 N	70.0000	1500.0000
	67AMM295	7.0000	1.0000	1.5000	1.0000	700.0000	0.0 N	0.0 N	0.0 N	150.0000	1500.0000
	67ADV157	7.0000	1.5000	1.5000	1.0000	1500.0000	0.0 N	0.0 N	0.0 N	30.0000	1500.0000
	67ADV159	7.0000	1.5000	2.0000	0.7000	1000.0000	0.0 N	0.0 N	0.0 N	20.0000L	1500.0000
	67ADV160	5.0000	1.5000	5.0000	1.0000	1500.0000	0.0 N	0.0 N	0.0 N	20.0000L	1500.0000
	67ADV162	7.0000	1.5000	5.0000	0.7000	1500.0000	0.0 N	0.0 N	0.0 N	30.0000	1500.0000
	67ADV161	5.0000	1.5000	5.0000	0.5000	1000.0000	0.0 N	0.0 N	0.0 N	20.0000	1500.0000
	67ADV163	7.0000	1.5000	7.0000	0.7000	1500.0000	0.0 N	0.0 N	0.0 N	20.0000L	2000.0000
	67ADV164	7.0000	2.0000	7.0000	1.0000	1500.0000	0.0 N	0.0 N	0.0 N	70.0000	1500.0000
	67ADV165	7.0000	1.5000	7.0000	0.5000	1000.0000	0.0 N	0.0 N	0.0 N	30.0000	3000.0000
	67ADV166	7.0000	1.5000	7.0000	0.7000	700.0000	0.0 N	0.0 N	0.0 N	20.0000L	3000.0000
HA-3	67AMM300	5.0000	1.5000	7.0000	0.3000	700.0000	0.0 N	0.0 N	0.0 N	0.0 N	3000.0000
	67AMM301	7.0000	1.5000	7.0000	0.3000	1000.0000	0.0 N	0.0 N	0.0 N	0.0 N	2000.0000
	67AMM299	7.0000	1.5000	5.0000	0.5000	700.0000	0.0 N	0.0 N	0.0 N	0.0 N	3000.0000
	67AMM294	5.0000	1.5000	1.5000	0.7000	700.0000	0.0 N	0.0 N	0.0 N	70.0000	1500.0000
HA-6	64AMM120	10.0000	2.0000	2.0000	0.3000	1000.0000	0.0 N	0.0 N	0.0 B	30.0000	1500.0000
	67AMM172	5.0000	1.5000	3.0000	0.3000	1000.0000	0.0 N	0.0 N	0.0 N	20.0000	1500.0000
	67ADV82	5.0000	1.0000	1.5000	0.1500	1000.0000	0.0 N	0.0 N	0.0 N	0.0 N	1000.0000
	67ADV81	3.0000	0.7000	1.5000	0.1500	300.0000	0.0 N	0.0 N	0.0 N	0.0 N	1000.0000
	67ADV79	2.0000	0.7000	1.0000	0.1500	300.0000	0.0 N	0.0 N	0.0 N	0.0 N	1000.0000
	67ADV77	3.0000	0.3000	1.5000	0.1500	300.0000	0.0 N	0.0 N	0.0 N	0.0 N	1000.0000
	67ADV74	2.0000	0.3000	1.0000	0.1500	200.0000	0.0 N	0.0 N	0.0 N	0.0 N	700.0000
	67ADV70	2.0000	0.3000	1.5000	0.1000	300.0000	0.0 N	0.0 N	0.0 N	0.0 N	1000.0000
	67ADV69	1.5000	0.2000	1.5000	0.1000	20.0000	0.0 N	0.0 N	0.0200	0.0 N	1000.0000
	67ADV142	7.0000	3.0000	5.0000	0.7000	1000.0000	0.0 N	0.0 N	0.0 N	30.0000	1500.0000
	67ADV140	7.0000	5.0000	7.0000	0.7000	1500.0000	0.0 N	0.0 N	0.0 N	20.0000	1500.0000
	67ADV139	7.0000	5.0000	7.0000	0.7000	1000.0000	0.0 N	0.0 N	0.0 N	30.0000	1500.0000
	67ADV123	5.0000	1.0000	2.0000	0.3000	700.0000	0.0 N	0.0 N	0.0 N	200.0000	1000.0000
	67ADV27	7.0000	1.0000	0.7000	0.3000	1000.0000	0.0 N	0.0 N	0.0 N	70.0000	700.0000
	67ADV28	7.0000	1.0000	1.5000	0.2000	1500.0000	0.0 N	0.0 N	0.0 N	100.0000	700.0000

TABLE 1. SED. SAMPLE ANALYSES

QUAD	SAMPLE	BE PPM	BI PPM	CO PPM	CR PPM	CU PPM	LA PPM	MO PPM	NB PPM	NI PPM	PB PPM
MD-2	67AMM343	1.0000	0.0 N	15.0000	50.0000	150.0000	150.0000	3.0000	0.0 N	20.0000	2000.0000
	67AMM356	1.0000	0.0 N	15.0000	50.0000	50.0000	30.0000	0.0 N	0.0 N	20.0000	20.0000
	67AMM357	1.0000	0.0 N	10.0000	30.0000	20.0000	30.0000	0.0 N	0.0 N	10.0000	0.0 N
	67AMM346	1.0000	0.0 N	0.0 N	15.0000	70.0000	300.0000	7.0000	20.0000	5.0000	15.0000
MD-3	67AMM290	1.5000	0.0 N	15.0000	30.0000	50.0000	150.0000	3.0000	20.0000	30.0000	30.0000
	67AMM291	1.5000	0.0 N	20.0000	30.0000	70.0000	70.0000	3.0000	10.0000	30.0000	30.0000
	67AMM292	1.0000	0.0 N	20.0000	50.0000	30.0000	200.0000	0.0 N	50.0000	50.0000	30.0000
	67AMM293	0.0 N	0.0 N	15.0000	70.0000	30.0000	30.0000	0.0 N	0.0 N	20.0000	15.0000
MD-4	67AMM5	0.0 N	0.0 N	10.0000	70.0000	20.0000	50.0000	0.0 N	0.0 N	20.0000	0.0 N
	67AMM6	0.0 N	0.0 N	10.0000	70.0000	20.0000	50.0000	0.0 N	0.0 N	20.0000	0.0 N
MD-5	67AMM8	0.0 N	0.0 N	0.0 N	70.0000	20.0000	70.0000	0.0 N	0.0 N	15.0000	0.0 N
	67AMM9	0.0 N	0.0 N	0.0 N	150.0000	15.0000	70.0000	0.0 N	0.0 N	20.0000	0.0 N
	67AMM10	0.0 N	0.0 N	15.0000	10.0000	30.0000	30.0000	0.0 N	0.0 N	30.0000	0.0 N
HA-2	67AMM355	0.0 N	0.0 N	30.0000	70.0000	50.0000	30.0000	0.0 N	0.0 N	30.0000	15.0000
	67AMM193	0.0 N	0.0 N	50.0000	50.0000	30.0000	0.0 N	0.0 N	0.0 N	20.0000	70.0000
	67AMM304	1.0000	0.0 N	30.0000	70.0000	30.0000	300.0000	0.0 N	15.0000	70.0000	30.0000
	67AMM303	1.0000	0.0 N	20.0000	70.0000	50.0000	70.0000	0.0 N	10.0000	70.0000	20.0000
	67AMM305	1.0000	0.0 N	20.0000	150.0000	50.0000	100.0000	0.0 N	10.0000	50.0000	20.0000
	67AMM302	1.0000	0.0 N	15.0000	50.0000	20.0000	150.0000	0.0 N	10.0000	30.0000	20.0000
	67AMM298	1.5000	0.0 N	20.0000	70.0000	50.0000	200.0000	3.0000	10.0000	50.0000	30.0000
	67AMM296	0.0 N	0.0 N	20.0000	100.0000	70.0000	70.0000	0.0 N	0.0 N	70.0000	30.0000
	67AMM295	0.0 N	0.0 N	15.0000	70.0000	70.0000	100.0000	0.0 N	15.0000	50.0000	30.0000
	67ADV157	1.5000	0.0 N	30.0000	70.0000	100.0000	70.0000	0.0 N	0.0 N	50.0000	30.0000
	67ADV159	1.5000	0.0 N	20.0000	70.0000	200.0000	70.0000	0.0 N	0.0 N	30.0000	15.0000
	67ADV160	1.5000	0.0 N	20.0000	70.0000	150.0000	200.0000	0.0 N	15.0000	30.0000	15.0000
	67ADV162	1.0000	15.0000	30.0000	70.0000	50.0000	70.0000	0.0 N	10.0000	50.0000	20.0000
	67ADV161	1.0000	0.0 N	15.0000	30.0000	100.0000	150.0000	0.0 N	10.0000	20.0000	20.0000
	67ADV163	1.5000	0.0 N	20.0000	70.0000	70.0000	150.0000	0.0 N	30.0000	50.0000	20.0000
	67ADV164	1.5000	0.0 N	20.0000	30.0000	20.0000	200.0000	0.0 N	50.0000	50.0000	15.0000
	67ADV165	1.5000	0.0 N	15.0000	30.0000	50.0000	70.0000	0.0 N	20.0000	30.0000	30.0000
	67ADV166	1.0000	0.0 N	15.0000	30.0000	50.0000	150.0000	0.0 N	30.0000	30.0000	15.0000
HA-3	67AMM300	1.5000	0.0 N	15.0000	70.0000	30.0000	70.0000	3.0000	10.0000	30.0000	30.0000
	67AMM301	1.0000	0.0 N	20.0000	150.0000	30.0000	150.0000	0.0 N	10.0000	30.0000	30.0000
	67AMM299	1.0000	0.0 N	20.0000	300.0000	50.0000	200.0000	0.0 N	10.0000	70.0000	30.0000
	67AMM294	0.0 N	0.0 N	15.0000	70.0000	70.0000	50.0000	0.0 N	10.0000	50.0000	20.0000
HA-6	64AMM120	2.0000	0.0 N	30.0000	200.0000	100.0000	100.0000	0.0 N	15.0000	70.0000	20.0000
	67AMM172	1.5000	0.0 N	50.0000	500.0000	30.0000	30.0000	0.0 N	0.0 N	150.0000	50.0000
	67ADV82	1.0000	0.0 N	30.0000	150.0000	20.0000	50.0000	0.0 N	0.0 N	30.0000	20.0000
	67ADV81	0.0 N	0.0 N	0.0 N	70.0000	30.0000	0.0 N	0.0 N	0.0 N	10.0000	20.0000
	67ADV79	1.5000	30.0000	0.0 N	30.0000	15.0000	30.0000	0.0 N	0.0 N	10.0000	20.0000
	67ADV77	1.5000	0.0 N	0.0 N	20.0000	30.0000	30.0000	0.0 N	0.0 N	0.0 N	30.0000
	67ADV74	1.5000	0.0 N	0.0 N	20.0000	10.0000	70.0000	0.0 N	0.0 N	2.0000	30.0000
	67ADV70	2.0000	0.0 N	0.0 N	0.0 N	30.0000	50.0000	0.0 N	0.0 N	0.0 N	30.0000
	67ADV69	1.5000	0.0 N	0.0 N	0.0 N	15.0000	30.0000	0.0 N	0.0 N	3.0000	20.0000
	67ADV142	1.5000	0.0 N	30.0000	200.0000	100.0000	100.0000	10.0000	10.0000	100.0000	30.0000
	67ADV140	1.5000	0.0 N	30.0000	150.0000	70.0000	100.0000	0.0 N	0.0 N	70.0000	30.0000
	67ADV139	3.0000	0.0 N	30.0000	150.0000	100.0000	150.0000	0.0 N	10.0000	100.0000	30.0000
	67ADV123	1.5000	0.0 N	10.0000	200.0000	20.0000	30.0000	0.0 N	0.0 N	30.0000	50.0000
	67ADV27	0.0 N	0.0 N	20.0000	100.0000	50.0000	20.0000	0.0 N	0.0 B	15.0000	50.0000
	67ADV28	2.0000	0.0 N	20.0000	200.0000	20.0000	150.0000	5.0000	0.0 B	20.0000	50.0000

TABLE 1. SED. SAMPLE ANALYSES

QUAD	SAMPLE	SB PPM	SC PPM	SN PPM	SR PPM	V PPM	W PPM	Y PPM	ZN PPM	ZR PPM
MD-2	67AMM343	0.0 N	0.0 B	0.0 N	300.0000	150.0000	0.0 N	30.0000	700.0000	300.0000
	67AMM356	0.0 N	7.0000	0.0 N	100.0000	150.0000	0.0 N	15.0000	0.0 N	300.0000
	67AMM357	0.0 N	7.0000	0.0 N	100.0000	70.0000	0.0 N	15.0000	0.0 N	200.0000
	67AMM346	0.0 N	0.0 B	0.0 N	200.0000	70.0000	0.0 N	50.0000	0.0 N	300.0000
MD-3	67AMM290	0.0 N	0.0 B	0.0 N	1500.0000	100.0000	0.0 N	30.0000	0.0 N	500.0000
	67AMM291	0.0 N	0.0 B	0.0 N	1000.0000	100.0000	0.0 N	20.0000	0.0 N	200.0000
	67AMM292	0.0 N	0.0 B	20.0000	1000.0000	150.0000	0.0 N	50.0000	0.0 N	700.0000
	67AMM293	0.0 N	0.0 B	0.0 N	150.0000	70.0000	0.0 N	15.0000	0.0 N	200.0000
MD-4	67AMM5	0.0 N	15.0000	0.0 N	0.0 N	100.0000	0.0 N	30.0000	0.0 N	300.0000
	67AMM6	0.0 N	15.0000	0.0 N	100.0000	150.0000	0.0 N	20.0000	0.0 N	200.0000
MD-5	67AMM8	0.0 N	15.0000	0.0 N	100.0000	150.0000	0.0 N	15.0000	0.0 N	300.0000
	67AMM9	0.0 N	15.0000	0.0 N	150.0000	150.0000	0.0 N	20.0000	0.0 N	300.0000
	67AMM10	0.0 N	15.0000	0.0 N	150.0000	150.0000	0.0 N	15.0000	0.0 N	200.0000
HA-2	67AMM355	0.0 N	10.0000	0.0 N	500.0000	300.0000	0.0 N	15.0000	0.0 N	300.0000
	67AMM193	0.0 N	15.0000	0.0 N	300.0000	70.0000	0.0 N	10.0000	0.0 N	100.0000
	67AMM304	0.0 N	0.0 B	0.0 N	1500.0000	150.0000	0.0 N	70.0000	0.0 N	150.0000
	67AMM303	0.0 N	0.0 B	0.0 N	1000.0000	150.0000	0.0 N	30.0000	0.0 N	300.0000
	67AMM305	0.0 N	0.0 B	0.0 N	1000.0000	150.0000	0.0 N	30.0000	0.0 N	300.0000
	67AMM302	0.0 N	0.0 B	0.0 N	2000.0000	150.0000	0.0 N	30.0000	0.0 N	500.0000
	67AMM298	0.0 N	0.0 B	0.0 N	1500.0000	150.0000	0.0 N	30.0000	0.0 N	300.0000
	67AMM296	0.0 N	0.0 B	0.0 N	700.0000	150.0000	0.0 N	20.0000	0.0 N	200.0000
	67AMM295	0.0 N	0.0 B	0.0 N	700.0000	150.0000	0.0 N	30.0000	0.0 N	300.0000
	67ADV157	0.0 N	0.0 B	0.0 N	300.0000	150.0000	0.0 N	50.0000	0.0 N	300.0000
	67ADV159	0.0 N	0.0 B	0.0 N	300.0000	100.0000	0.0 N	30.0000	0.0 N	300.0000
	67ADV160	0.0 N	0.0 B	0.0 N	1000.0000	150.0000	0.0 N	50.0000	0.0 N	300.0000
	67ADV162	0.0 N	0.0 B	0.0 N	700.0000	150.0000	0.0 N	30.0000	0.0 N	200.0000
	67ADV161	0.0 N	0.0 B	20.0000	1000.0000	70.0000	0.0 N	20.0000	0.0 N	200.0000
	67ADV163	0.0 N	0.0 B	0.0 N	1000.0000	150.0000	0.0 N	30.0000	0.0 N	700.0000
	67ADV164	0.0 N	0.0 B	0.0 N	1000.0000	100.0000	0.0 N	30.0000	0.0 N	1000.0000
	67ADV165	0.0 N	0.0 B	0.0 N	1000.0000	70.0000	0.0 N	20.0000	0.0 N	200.0000
	67ADV166	0.0 N	0.0 B	0.0 N	1500.0000	70.0000	0.0 N	30.0000	0.0 N	200.0000
HA-3	67AMM300	0.0 N	0.0 B	0.0 N	2000.0000	70.0000	0.0 N	15.0000	0.0 N	150.0000
	67AMM301	0.0 N	0.0 B	0.0 N	1500.0000	100.0000	0.0 N	30.0000	0.0 N	150.0000
	67AMM299	0.0 N	0.0 B	0.0 N	1500.0000	150.0000	0.0 N	30.0000	0.0 N	200.0000
	67AMM294	0.0 N	0.0 B	0.0 N	500.0000	150.0000	0.0 N	20.0000	0.0 N	200.0000
HA-6	64AMM120	0.0 N	30.0000	0.0 N	1000.0000	300.0000	0.0 N	30.0000	0.0 N	150.0000
	67AMM172	0.0 N	30.0000	0.0 N	1000.0000	150.0000	0.0 N	15.0000	0.0 N	150.0000
	67ADV82	0.0 N	15.0000	0.0 N	700.0000	150.0000	0.0 N	10.0000	0.0 N	150.0000
	67ADV81	0.0 N	7.0000	0.0 N	700.0000	100.0000	0.0 N	0.0 N	0.0 N	100.0000
	67ADV79	0.0 N	10.0000	0.0 N	300.0000	70.0000	0.0 N	10.0000	0.0 N	150.0000
	67ADV77	0.0 N	0.0 N	0.0 N	300.0000	100.0000	0.0 N	20.0000	0.0 N	200.0000
	67ADV74	0.0 N	0.0 N	0.0 N	500.0000	30.0000	0.0 N	7.0000	0.0 N	150.0000
	67ADV70	0.0 N	0.0 N	0.0 N	500.0000	50.0000	0.0 N	7.0000	0.0 N	150.0000
	67ADV69	0.0 N	0.0 N	0.0 N	500.0000	50.0000	0.0 N	10.0000	0.0 N	100.0000
	67ADV142	0.0 N	0.0 B	0.0 N	500.0000	200.0000	0.0 N	50.0000	0.0 N	200.0000
	67ADV140	0.0 N	0.0 B	0.0 N	500.0000	200.0000	0.0 N	30.0000	0.0 N	300.0000
	67ADV139	0.0 N	0.0 B	0.0 N	1000.0000	150.0000	0.0 N	30.0000	0.0 N	300.0000
	67ADV123	0.0 N	7.0000	0.0 N	300.0000	70.0000	0.0 N	10.0000	0.0 N	200.0000
	67ADV27	0.0 N	20.0000	0.0 N	150.0000	150.0000	0.0 N	10.0000	0.0 N	150.0000
	67ADV28	0.0 N	20.0000	0.0 N	300.0000	70.0000	0.0 N	10.0000	0.0 N	100.0000

TABLE 1. SED. SAMPLE ANALYSES

QUAD	SAMPLE	FE PCT	MG PCT	CA PCT	TI PCT	MN PPM	AG PPM	AS PPM	AU PPM	B PPM	BA PPM
HA-6	67ADV125	5.0000	1.0000	2.0000	0.1500	1000.0000	0.0 N	0.0 N	0.0 N	300.0000	1000.0000
	67ADV29	7.0000	1.0000	2.0000	0.2000	1000.0000	0.0 N	0.0 N	0.0 N	70.0000	700.0000
	67ADV30	7.0000	2.0000	3.0000	0.3000	15.0000	0.0 N	0.0 N	0.0 N	100.0000	1000.0000
	67ADV127	5.0000	1.0000	3.0000	0.1500	1000.0000	0.0 N	0.0 N	0.0 N	50.0000	1000.0000
	67ADV167	7.0000	1.5000	5.0000	1.0000	700.0000	0.0 N	0.0 N	0.0 N	50.0000	1500.0000
	67ADV167	7.0000	1.5000	3.0000	0.7000	500.0000	0.0 N	0.0 N	0.0 N	50.0000	1500.0000
	67ADV167	7.0000	1.5000	5.0000	1.0000	700.0000	0.0 N	0.0 N	0.0 N	30.0000	1500.0000
	67ADV167	7.0000	1.5000	3.0000	0.7000	700.0000	0.0 N	0.0 N	0.0 N	30.0000	1000.0000
	67ADV167	7.0000	1.5000	1.5000	1.0000	700.0000	0.0 N	0.0 N	0.0 N	30.0000	1500.0000
	67ADV167	7.0000	1.5000	3.0000	0.7000	1000.0000	0.0 N	0.0 N	0.0 N	30.0000	1000.0000
	67ADV167	7.0000	1.5000	3.0000	0.5000	1000.0000	0.0 N	0.0 N	0.0 N	20.0000	1500.0000
	67ADV167	7.0000	2.0000	5.0000	0.5000	1000.0000	0.0 N	0.0 N	0.0 N	20.0000L	1500.0000
	67ADV167	7.0000	1.5000	5.0000	0.7000	1000.0000	0.0 N	0.0 N	0.0 N	20.0000	1500.0000
	67ADV167	7.0000	3.0000	5.0000	0.7000	1000.0000	0.0 N	0.0 N	0.0 N	20.0000L	1500.0000
	67ADV167	7.0000	1.5000	3.0000	0.7000	700.0000	0.0 N	0.0 N	0.0400	30.0000	1500.0000
	67ADV132	7.0000	1.0000	1.5000	0.2000	1500.0000	0.0 N	0.0 N	1.7400	100.0000	700.0000
	67ADV132	7.0000	1.5000	5.0000	0.7000	700.0000	0.0 N	0.0 N	0.0 N	30.0000	1500.0000
	67ADV132	7.0000	1.5000	5.0000	0.5000	700.0000	0.0 N	0.0 N	0.0 N	30.0000	1500.0000
	67ADV132	7.0000	1.5000	5.0000	0.7000	1000.0000	0.0 N	0.0 N	0.0 N	20.0000	1500.0000
	67ADV132	7.0000	2.0000	5.0000	0.7000	1500.0000	0.0 N	0.0 N	0.0 N	30.0000	1500.0000
	67ADV132	7.0000	2.0000	5.0000	0.7000	1000.0000	0.0 N	0.0 N	0.0 N	30.0000	1500.0000
	67ADV68	1.5000	0.5000	1.5000	0.1500	200.0000	0.0 N	0.0 N	0.0 N	0.0 N	1000.0000
	67ADV67	3.0000	0.7000	1.5000	0.3000	700.0000	0.0 N	0.0 N	0.0200	0.0 N	1000.0000
	67ADV66	1.5000	0.3000	1.0000	0.1500	200.0000	0.0 N	0.0 N	0.0 N	0.0 N	700.0000
	67ADV65	1.5000	0.3000	1.5000	0.2000	150.0000	0.0 N	0.0 N	0.0200	0.0 N	500.0000
	67ADV60	1.0000	0.2000	1.0000	0.7000	300.0000	0.0 N	0.0 N	0.0300	0.0 N	1000.0000
	67ADV59	3.0000	0.5000	1.5000	0.1000	150.0000	0.0 N	0.0 N	0.0300	0.0 N	1500.0000
	67ADV57	1.0000	0.2000	1.0000	0.1000	500.0000	0.0 N	0.0 N	0.0 N	0.0 N	1000.0000
	67ADV55	3.0000	0.5000	1.0000	0.1500	1000.0000	0.0 N	0.0 N	0.0 N	30.0000	500.0000
	67ADV53	3.0000	1.0000	1.0000	0.1500	700.0000	0.0 N	0.0 N	0.0 N	0.0 N	2000.0000
	67ADV174	7.0000	1.5000	1.0000	0.7000	700.0000	0.0 N	0.0 N	0.0 N	70.0000	1500.0000
	67ADV174	7.0000	1.5000	1.5000	0.7000	1000.0000	0.0 N	0.0 N	0.0 N	70.0000	1500.0000
	67ADV174	7.0000	1.5000	1.5000	0.7000	1500.0000	0.0 N	0.0 N	0.0 N	70.0000	1500.0000
	67ADV174	7.0000	1.5000	2.0000	0.5000	1000.0000	0.0 N	0.0 N	0.0 N	30.0000	2000.0000
	67ADV174	7.0000	2.0000	2.0000	0.7000	3000.0000	0.0 N	0.0 N	0.0 N	0.0 N	1500.0000
	67ADV175	7.0000	1.5000	3.0000	0.5000	700.0000	0.0 N	0.0 N	0.0 N	0.0 N	2000.0000
	67ADV175	7.0000	1.0000	3.0000	0.7000	500.0000	0.0 N	0.0 N	0.0 N	0.0 N	2000.0000
	67ADV175	7.0000	1.5000	3.0000	0.5000	700.0000	0.0 N	0.0 N	0.0 N	0.0 N	2000.0000
	67ADV175	7.0000	1.5000	3.0000	0.7000	1500.0000	0.0 N	0.0 N	0.0 N	0.0 N	2000.0000
	67ADV176	7.0000	1.5000	2.0000	0.5000	1500.0000	0.0 N	0.0 N	0.0 N	0.0 N	2000.0000
	67ADV176	7.0000	1.5000	2.0000	0.5000	1500.0000	0.0 N	0.0 N	0.0 N	0.0 N	2000.0000
	67ADV177	7.0000	2.0000	3.0000	0.5000	1500.0000	0.0 N	0.0 N	0.0 N	0.0 N	1500.0000
	67ADV177	7.0000	3.0000	3.0000	0.5000	2000.0000	0.0 N	0.0 N	0.0 N	0.0 N	1500.0000
	67ADV178	10.0000G	1.5000	2.0000	0.7000	1500.0000	0.0 N	0.0 N	0.0 N	30.0000	1500.0000
	67ADV178	10.0000G	1.5000	2.0000	1.0000	1500.0000	0.0 N	0.0 N	0.0 N	30.0000	1500.0000
	67ADV179	5.0000	0.7000	3.0000	0.3000	1000.0000	0.0 N	0.0 N	0.0 N	0.0 N	3000.0000
HB-6	67ADV7	3.0000	0.7000	1.0000	0.3000	700.0000	0.0 N	0.0 N	0.0 N	50.0000	1000.0000
	67ADV10	3.0000	0.7000	0.7000	0.5000	300.0000	0.0 N	0.0 N	0.0 N	50.0000	1000.0000
	67ADV11	3.0000	0.7000	0.7000	0.3000	500.0000	0.0 N	0.0 N	0.0 N	50.0000	700.0000
	67AMM173	3.0000	0.7000	1.0000	0.1500	0.0 N	0.0 N	0.0 N	0.0 N	50.0000	1000.0000

TABLE 1. SED. SAMPLE ANALYSES

QUAD	SAMPLE	BE PPM	BI PPM	CO PPM	CR PPM	CU PPM	LA PPM	MO PPM	NB PPM	NI PPM	PB PPM
HA-6	67ADV125	1.0000	0.0 N	15.0000	200.0000	15.0000	0.0 N	0.0 N	0.0 N	30.0000	30.0000
	67ADV29	1.5000	0.0 N	20.0000	200.0000	30.0000	150.0000	5.0000	0.0 B	100.0000	50.0000
	67ADV30	2.0000	0.0 N	50.0000	500.0000	30.0000	200.0000	7.0000	0.0 N	150.0000	50.0000
	67ADV127	1.0000	0.0 N	30.0000	200.0000	30.0000	0.0 N	0.0 N	0.0 N	30.0000	50.0000
	67ADV167	3.0000	0.0 N	20.0000	150.0000	50.0000	150.0000	5.0000	20.0000	50.0000	70.0000
	67ADV167	2.0000	0.0 N	15.0000	150.0000	50.0000	150.0000	3.0000	30.0000	50.0000	70.0000
	67ADV167	3.0000	0.0 N	15.0000	150.0000	50.0000	150.0000	3.0000	30.0000	50.0000	70.0000
	67ADV167	2.0000	0.0 N	15.0000	150.0000	70.0000	200.0000	3.0000	20.0000	50.0000	70.0000
	67ADV167	3.0000	0.0 N	15.0000	100.0000	50.0000	100.0000	7.0000	30.0000	50.0000	70.0000
	67ADV167	3.0000	0.0 N	15.0000	150.0000	70.0000	100.0000	0.0 N	10.0000	50.0000	70.0000
	67ADV167	3.0000	0.0 N	20.0000	150.0000	70.0000	100.0000	5.0000	10.0000	70.0000	100.0000
	67ADV167	3.0000	0.0 N	15.0000	150.0000	50.0000	200.0000	0.0 N	15.0000	50.0000	70.0000
	67ADV167	2.0000	0.0 N	15.0000	100.0000	70.0000	150.0000	0.0 N	10.0000	50.0000	50.0000
	67ADV167	2.0000	0.0 N	20.0000	150.0000	70.0000	150.0000	0.0 N	15.0000	50.0000	50.0000
	67ADV167	1.5000	0.0 N	15.0000	100.0000	50.0000	100.0000	0.0 N	15.0000	50.0000	30.0000
	67ADV132	1.5000	15.0000	50.0000	300.0000	50.0000	70.0000	5.0000	0.0 N	70.0000	100.0000
	67ADV132	2.0000	0.0 N	15.0000	100.0000	30.0000	150.0000	0.0 N	15.0000	50.0000	50.0000
	67ADV132	3.0000	0.0 N	15.0000	150.0000	30.0000	150.0000	0.0 N	15.0000	30.0000	50.0000
	67ADV132	3.0000	0.0 N	15.0000	150.0000	30.0000	150.0000	0.0 N	30.0000	50.0000	50.0000
	67ADV132	3.0000	0.0 N	15.0000	150.0000	30.0000	150.0000	0.0 N	30.0000	50.0000	50.0000
	67ADV132	3.0000	0.0 N	15.0000	150.0000	30.0000	150.0000	0.0 N	30.0000	50.0000	50.0000
	67ADV68	1.5000	0.0 N	0.0 N	0.0 N	10.0000	70.0000	0.0 N	0.0 N	7.0000	20.0000
	67ADV67	2.0000	0.0 N	0.0 N	30.0000	30.0000	70.0000	0.0 N	20.0000	10.0000	20.0000
	67ADV66	1.5000	0.0 N	0.0 N	0.0 N	15.0000	30.0000	0.0 N	0.0 N	0.0 N	20.0000
	67ADV65	1.5000	0.0 N	0.0 N	10.0000	5.0000	0.0 N	0.0 N	0.0 N	2.0000	20.0000
	67ADV60	1.5000	0.0 N	0.0 N	0.0 N	30.0000	0.0 N	0.0 N	0.0 N	0.0 N	20.0000
	67ADV59	1.5000	0.0 N	0.0 N	10.0000	30.0000	0.0 N	0.0 N	0.0 N	0.0 N	30.0000
	67ADV57	1.5000	0.0 N	0.0 N	0.0 N	20.0000	20.0000	0.0 N	0.0 N	2.0000	15.0000
	67ADV55	2.0000	0.0 N	0.0 N	30.0000	30.0000	20.0000	0.0 N	0.0 N	7.0000	15.0000
	67ADV53	1.5000	0.0 N	0.0 N	10.0000	30.0000	0.0 N	0.0 N	0.0 N	5.0000	20.0000
	67ADV174	3.0000	0.0 N	15.0000	150.0000	50.0000	150.0000	0.0 N	20.0000	70.0000	50.0000
	67ADV174	3.0000	0.0 N	15.0000	150.0000	50.0000	150.0000	0.0 N	30.0000	70.0000	70.0000
	67ADV174	2.0000	0.0 N	20.0000	150.0000	70.0000	100.0000	0.0 N	20.0000	50.0000	50.0000
	67ADV174	3.0000	0.0 N	15.0000	70.0000	50.0000	300.0000	0.0 N	30.0000	50.0000	70.0000
	67ADV174	3.0000	0.0 N	30.0000	200.0000	50.0000	300.0000	0.0 N	30.0000	100.0000	100.0000
	67ADV175	3.0000	0.0 N	15.0000	70.0000	30.0000	150.0000	0.0 N	30.0000	30.0000	70.0000
	67ADV175	1.5000	0.0 N	15.0000	70.0000	50.0000	300.0000	0.0 N	30.0000	30.0000	50.0000
	67ADV175	2.0000	0.0 N	15.0000	70.0000	50.0000	150.0000	0.0 N	15.0000	30.0000	50.0000
	67ADV175	1.5000	0.0 N	30.0000	200.0000	70.0000	100.0000	0.0 N	15.0000	70.0000	50.0000
	67ADV176	1.0000	0.0 N	30.0000N	150.0000	100.0000	150.0000	0.0 N	20.0000	70.0000	70.0000
	67ADV176	1.0000	0.0 N	30.0000	150.0000	100.0000	200.0000	0.0 N	10.0000	70.0000	150.0000
	67ADV177	2.0000	0.0 N	20.0000	150.0000	100.0000	150.0000	0.0 N	10.0000	70.0000	70.0000
	67ADV177	2.0000	0.0 N	30.0000	200.0000	100.0000	100.0000	0.0 N	15.0000	70.0000	150.0000
	67ADV178	2.0000	0.0 N	30.0000	100.0000	70.0000	150.0000	0.0 N	30.0000	70.0000	50.0000
	67ADV178	3.0000	0.0 N	30.0000	150.0000	70.0000	300.0000	0.0 N	30.0000	70.0000	70.0000
	67ADV179	1.5000	0.0 N	10.0000	30.0000	70.0000	100.0000	0.0 N	10.0000	20.0000	70.0000
HB-6	67ADV7	0.0 N	0.0 N	10.0000	150.0000	30.0000	30.0000	0.0 N	0.0 B	30.0000	30.0000
	67ADV10	0.0 N	0.0 N	0.0 N	15.0000	20.0000	30.0000	0.0 N	0.0 B	15.0000	50.0000
	67ADV11	0.0 N	0.0 N	10.0000	100.0000	30.0000	30.0000	0.0 N	0.0 B	20.0000	50.0000
	67AMM173	1.5000	0.0 N	10.0000	100.0000	50.0000	50.0000	7.0000	0.0 N	30.0000	30.0000

TABLE 1. SED. SAMPLE ANALYSES

QUAD	SAMPLE	SB PPM		SC PPM		SN PPM		SR PPM	V PPM	W PPM		Y PPM	ZN PPM		ZR PPM
HA-6	67ADV125	0.0	N	10.0000		0.0	N	300.0000	50.0000	0.0	N	5.0000	0.0	N	70.0000
	67ADV29	0.0	N	20.0000		0.0	N	500.0000	70.0000	0.0	N	15.0000	0.0	N	150.0000
	67ADV30	0.0	N	30.0000		0.0	N	700.0000	200.0000	0.0	N	15.0000	0.0	N	200.0000
	67ADV127	0.0	N	15.0000		0.0	N	300.0000	70.0000	0.0	N	5.0000	0.0	N	50.0000
	67ADV167	0.0	N	0.0	B	0.0	N	700.0000	150.0000	0.0	N	50.0000	0.0	N	1500.0000
	67ADV167	0.0	N	0.0	B	0.0	N	700.0000	150.0000	0.0	N	50.0000	0.0	N	1500.0000
	67ADV167	0.0	N	0.0	B	0.0	N	1000.0000	150.0000	0.0	N	70.0000	0.0	N	150.0000
	67ADV167	0.0	N	0.0	B	0.0	N	700.0000	150.0000	0.0	N	30.0000	0.0	N	1500.0000
	67ADV167	0.0	N	0.0	B	0.0	N	700.0000	150.0000	0.0	N	30.0000	0.0	N	700.0000
	67ADV167	0.0	N	0.0	B	0.0	N	700.0000	150.0000	0.0	N	30.0000	0.0	N	700.0000
	67ADV167	0.0	N	0.0	B	0.0	N	1000.0000	150.0000	0.0	N	30.0000	0.0	N	500.0000
	67ADV167	0.0	N	0.0	B	0.0	N	1000.0000	150.0000	0.0	N	30.0000	0.0	N	500.0000
	67ADV167	0.0	N	0.0	B	0.0	N	1000.0000	150.0000	0.0	N	50.0000	0.0	N	700.0000
	67ADV167	0.0	N	0.0	B	0.0	N	1000.0000	150.0000	0.0	N	50.0000	0.0	N	700.0000
	67ADV167	0.0	N	0.0	B	0.0	N	500.0000	150.0000	0.0	N	50.0000	0.0	N	700.0000
	67ADV132	0.0	N	20.0000		0.0	N	100.0000	100.0000	0.0	N	7.0000	0.0	N	150.0000
	67ADV132	0.0	N	0.0	B	0.0	N	700.0000	150.0000	0.0	N	50.0000	0.0	N	1500.0000
	67ADV132	0.0	N	0.0	B	0.0	N	1000.0000	150.0000	0.0	N	30.0000	0.0	N	1000.0000
	67ADV132	0.0	N	0.0	B	0.0	N	1000.0000	150.0000	0.0	N	50.0000	0.0	N	1500.0000
	67ADV132	0.0	N	0.0	B	0.0	N	1000.0000	150.0000	0.0	N	50.0000	0.0	N	1500.0000
	67ADV132	0.0	N	0.0	B	0.0	N	1000.0000	150.0000	0.0	N	50.0000	0.0	N	2000.0000
	67ADV68	0.0	N	0.0	N	0.0	N	700.0000	50.0000	0.0	N	7.0000	0.0	N	70.0000
	67ADV67	0.0	N	0.0	N	0.0	N	700.0000	70.0000	0.0	N	15.0000	0.0	N	100.0000
	67ADV66	0.0	N	0.0	N	0.0	N	500.0000	70.0000	0.0	N	7.0000	0.0	N	150.0000
	67ADV65	0.0	N	0.0	N	0.0	N	500.0000	50.0000	0.0	N	15.0000	0.0	N	70.0000
	67ADV60	0.0	N	0.0	N	0.0	N	500.0000	30.0000	0.0	N	5.0000	0.0	N	100.0000
	67ADV59	0.0	N	0.0	N	0.0	N	700.0000	70.0000	0.0	N	5.0000	0.0	N	100.0000
	67ADV57	0.0	N	0.0	N	0.0	N	700.0000	30.0000	0.0	N	5.0000	0.0	N	70.0000
	67ADV55	0.0	N	7.0000		0.0	N	500.0000	70.0000	0.0	N	7.0000	0.0	N	200.0000
	67ADV53	0.0	N	0.0	N	0.0	N	700.0000	50.0000	0.0	N	0.0	0.0	N	50.0000
	67ADV174	0.0	N	0.0	B	0.0	N	300.0000	150.0000	0.0	N	30.0000	0.0	N	1500.0000
	67ADV174	0.0	N	0.0	B	0.0	N	500.0000	150.0000	0.0	N	50.0000	0.0	N	1500.0000
	67ADV174	0.0	N	0.0	B	0.0	N	300.0000	150.0000	0.0	N	30.0000	0.0	N	1000.0000
	67ADV174	0.0	N	0.0	B	30.0000		1000.0000	150.0000	0.0	N	70.0000	0.0	N	5000.0000
	67ADV174	0.0	N	0.0	B	0.0	N	1000.0000	150.0000	0.0	N	70.0000	0.0	N	1000.0000
	67ADV175	0.0	N	0.0	B	0.0	N	1500.0000	150.0000	0.0	N	30.0000	0.0	N	700.0000
	67ADV175	0.0	N	0.0	B	0.0	N	1000.0000	150.0000	0.0	N	50.0000	0.0	N	300.0000
	67ADV175	0.0	N	0.0	B	0.0	N	1000.0000	150.0000	0.0	N	30.0000	0.0	N	300.0000
	67ADV175	0.0	N	0.0	B	0.0	N	700.0000	150.0000	0.0	N	30.0000	0.0	N	700.0000
	67ADV176	0.0	N	0.0	B	0.0	N	700.0000	150.0000	0.0	N	30.0000	0.0	N	500.0000
	67ADV176	0.0	N	0.0	B	0.0	N	700.0000	150.0000	0.0	N	30.0000	0.0	N	700.0000
	67ADV177	0.0	N	0.0	B	0.0	N	700.0000	150.0000	0.0	N	20.0000	0.0	N	700.0000
	67ADV177	0.0	N	0.0	B	0.0	N	700.0000	300.0000	0.0	N	20.0000	0.0	N	300.0000
	67ADV178	0.0	N	0.0	B	0.0	N	700.0000	150.0000	0.0	N	70.0000	0.0	N	1000.0000
	67ADV178	0.0	N	0.0	B	0.0	N	700.0000	150.0000	0.0	N	70.0000	0.0	N	1500.0000
	67ADV179	0.0	N	0.0	B	0.0	N	1500.0000	70.0000	0.0	N	15.0000	0.0	N	300.0000
HB-6	67ADV7	0.0	N	15.0000		0.0	N	100.0000	100.0000	0.0	N	7.0000	0.0	N	200.0000
	67ADV10	0.0	N	10.0000		0.0	N	150.0000	100.0000	0.0	N	10.0000	0.0	N	200.0000
	67ADV11	0.0	N	10.0000		0.0	N	100.0000	200.0000	0.0	N	10.0000	0.0	N	150.0000
	67AMM173	0.0	N	7.0000		0.0	N	500.0000	70.0000	0.0	N	5.0000	0.0	N	100.0000

TABLE 1. SED. SAMPLE ANALYSES

QUAD	SAMPLE	FE PCT	MG PCT	CA PCT	TI PCT	MN PPM	AG PPM	AS PPM	AU PPM	B PPM	BA PPM
HB-6	67AMM337	7.0000	2.0000	3.0000	0.7000	700.0000	0.0 N	0.0 N	0.0 N	30.0000	1500.0000
	67AMM338	7.0000	3.0000	3.0000	0.7000	700.0000	0.0 N	0.0 N	0.0 N	20.0000	1500.0000
	67AMM336	7.0000	2.0000	7.0000	0.7000	700.0000	0.0 N	0.0 N	0.0 N	20.0000L	2000.0000
	67AMM339	7.0000	1.5000	7.0000	0.7000	700.0000	0.0 N	0.0 N	0.0 N	20.0000	3000.0000
	67AMM334	7.0000	0.7000	3.0000	0.3000	700.0000	0.0 N	0.0 N	0.0 N	20.0000L	3000.0000
HC-4	67AMM314	7.0000	15.0000	1.0000	0.7000	1000.0000	0.0 N	0.0 N	0.0 N	20.0000	1000.0000
	67AMM315	7.0000	5.0000	7.0000	0.5000	1000.0000	0.0 N	0.0 N	0.0 N	20.0000	1500.0000
	67AMM316	7.0000	3.0000	5.0000	0.5000	1500.0000	0.0 N	0.0 N	0.0 N	30.0000	1000.0000
	67AMM317	7.0000	1.5000	1.5000	0.5000	700.0000	0.0 N	0.0 N	0.0 N	20.0000	1000.0000
	67AMM308	10.0000	2.0000	3.0000	0.3000	1500.0000	0.0 N	0.0 N	0.0 N	20.0000	1000.0000
	67AMM318	7.0000	1.5000	0.3000	0.5000	500.0000	0.0 N	0.0 N	0.0 N	20.0000L	2000.0000
	67AMM319	7.0000	0.7000	0.3000	0.5000	150.0000	2.0000	0.0 N	0.0 N	20.0000L	7000.0000
HB-4	67AMM312	7.0000	1.5000	1.0000	0.5000	1000.0000	0.0 N	0.0 N	0.0 N	30.0000	1000.0000
	67AMM313	7.0000	1.0000	1.0000	0.5000	1500.0000	0.0 N	0.0 N	0.0 N	20.0000	1000.0000
SA-1	67ADV34	1.5000	0.3000	1.0000	0.1500	500.0000	0.0 N	0.0 N	0.0 N	0.0 N	1500.0000
	67ADV35	1.5000	0.5000	1.0000	0.1500	300.0000	0.0 N	0.0 N	0.0 N	0.0 N	1500.0000
	67ADV32	5.0000	0.7000	1.0000	0.2000	700.0000	0.0 N	0.0 N	0.0 N	20.0000	1000.0000
	67AMM171	1.5000	0.7000	1.0000	0.0700	300.0000	0.0 N	0.0 N	0.0 N	0.0 N	700.0000
	67AMM169	1.0000	0.5000	1.5000	0.1000	200.0000	0.0 N	0.0 N	0.0300	0.0 N	700.0000
	67AMM170	5.0000	0.7000	1.5000	0.2000	500.0000	0.0 N	0.0 N	0.0 N	15.0000	700.0000
	67AMM167	1.5000	0.3000	1.0000	0.1500	300.0000	0.0 N	0.0 N	0.0 N	0.0 N	1000.0000
	65AMM169	1.0000	0.5000	1.5000	0.2000	200.0000	0.0 N	0.0 N	0.0 N	10.0000	2000.0000
SA-2	67AMM101	5.0000	0.7000	2.0000	0.5000	500.0000	0.0 N	0.0 N	0.0 N	100.0000	1000.0000
	67AMM102	2.0000	0.7000	1.5000	0.1500	150.0000	1.5000	0.0 N	0.0 N	0.0 N	1000.0000
	67AMM100	3.0000	0.7000	1.5000	0.2000	300.0000	0.0 N	0.0 N	0.0 N	30.0000	1000.0000
	67AMM99	3.0000	0.7000	1.5000	0.3000	300.0000	0.0 N	0.0 N	0.0 N	30.0000	1000.0000
	67AMM96	5.0000	0.7000	2.0000	0.5000	700.0000	0.0 N	0.0 N	0.0 N	0.0 N	1500.0000
	67AMM97	5.0000	0.7000	1.5000	0.5000	300.0000	0.0 N	0.0 N	0.0 N	15.0000	700.0000
	67AMM95	3.0000	0.7000	1.5000	0.1500	700.0000	0.0 N	0.0 N	0.0 N	10.0000	1500.0000
	67AMM94	5.0000	0.7000	1.5000	0.3000	500.0000	0.0 N	0.0 N	0.0 N	0.0 N	700.0000
	67AMM93	3.0000	0.7000	1.5000	0.1500	700.0000	0.0 N	0.0 N	0.0 N	10.0000	1000.0000
	67AMM92	3.0000	0.7000	1.0000	0.1500	500.0000	0.0 N	0.0 N	0.0 N	0.0 N	1000.0000
	67AMM91	3.0000	0.7000	1.0000	0.1500	700.0000	0.0 N	0.0 N	0.0 N	0.0 N	700.0000
	67AMM98	7.0000	1.0000	2.0000	0.5000	700.0000	0.0 N	0.0 N	0.0 N	10.0000	1000.0000
	67AMM103	3.0000	0.7000	1.5000	0.1500	300.0000	0.0 N	0.0 N	0.0 N	0.0 N	1000.0000
SA-3	67AMM122	3.0000	0.7000	1.5000	0.1500	700.0000	0.0 N	0.0 N	0.0 N	10.0000	1000.0000
	67AMM121	1.5000	0.7000	1.0000	0.1500	500.0000	0.0 N	0.0 N	0.0 N	0.0 N	1500.0000
	67AMM120	5.0000	1.5000	1.5000	0.2000	700.0000	0.0 N	0.0 N	0.0 N	0.0 N	2000.0000
	67AMM106	2.0000	0.7000	1.5000	0.1500	300.0000	0.0 N	0.0 N	0.0200	10.0000	1000.0000
	67AMM105	3.0000	0.7000	1.5000	0.1500	500.0000	0.0 N	0.0 N	0.0 N	0.0 N	1000.0000
	66AMM75	3.0000	1.0000	2.0000	0.5000	700.0000	0.0 N	0.0 N	0.0 N	0.0 N	1000.0000
	67AMM213	1.0000	0.5000	1.0000	0.1500	500.0000	0.0 N	0.0 N	0.0 N	10.0000	700.0000
	67AMM215	0.7000	0.1000	0.2000	0.0700	500.0000	0.0 N	0.0 N	0.0 N	0.0 N	100.0000
	67AMM214	0.7000	0.2000	0.1000	0.1000	700.0000	0.0 N	0.0 N	0.0 N	15.0000	150.0000
	66AMM74	2.0000	0.5000	1.0000	0.3000	500.0000	0.0 N	0.0 N	0.0 N	10.0000	700.0000
SA-4	67ADV121	7.0000	0.7000	0.7000	0.7000	1500.0000	0.0 N	0.0 N	0.0 N	30.0000	1500.0000
	67ADV122	7.0000	1.5000	1.0000	0.5000	1500.0000	0.0 N	0.0 N	0.0 N	30.0000	1500.0000
	66AMM70	5.0000	1.0000	2.0000	0.5000	700.0000	0.7000L	0.0 N	0.0 N	20.0000	1000.0000
	66AMM71	5.0000	1.0000	1.5000	0.5000	700.0000	0.7000L	0.0 N	0.0 N	30.0000	1500.0000
SB-1	64AMM126	2.0000	0.5000	1.5000	0.1500	300.0000	0.0 N	0.0 N	0.0 B	10.0000	2000.0000

TABLE 1. SED. SAMPLE ANALYSES

QUAD	SAMPLE	BE PPM	BI PPM	CO PPM	CR PPM	CU PPM	LA PPM	MO PPM	NB PPM	NI PPM	PB PPM
HB-6	67AMM337	1.5000	0.0 N	20.0000	100.0000	150.0000	100.0000	5.0000	10.0000	70.0000	70.0000
	67AMM338	3.0000	0.0 N	30.0000	150.0000	150.0000	70.0000	10.0000	15.0000	70.0000	50.0000
	67AMM336	2.0000	0.0 N	15.0000	70.0000	50.0000	100.0000	3.0000	10.0000	50.0000	50.0000
	67AMM339	2.0000	0.0 N	15.0000	70.0000	70.0000	200.0000	0.0 N	20.0000	50.0000	70.0000
	67AMM334	1.5000	0.0 N	15.0000	30.0000	50.0000	150.0000	0.0 N	15.0000	15.0000	50.0000
HC-4	67AMM314	1.0000	0.0 N	30.0000	70.0000	70.0000	0.0 N	0.0 N	0.0 N	70.0000	15.0000
	67AMM315	1.0000	0.0 N	30.0000	200.0000	70.0000	100.0000	0.0 N	10.0000	70.0000	20.0000
	67AMM316	1.0000	0.0 N	20.0000	70.0000	50.0000	100.0000	0.0 N	10.0000	50.0000	20.0000
	67AMM317	0.0 N	0.0 N	15.0000	70.0000	30.0000	0.0 N	0.0 N	10.0000	30.0000	20.0000
	67AMM308	1.0000	0.0 N	70.0000	100.0000	200.0000	50.0000	0.0 N	10.0000	70.0000	30.0000
	67AMM318	1.0000	0.0 N	15.0000	70.0000	150.0000	0.0 N	3.0000	0.0 N	20.0000	20.0000
	67AMM319	0.0 N	0.0 N	5.0000	50.0000	100.0000	0.0 N	7.0000	0.0 N	7.0000	20.0000
HB-4	67AMM312	1.0000	0.0 N	15.0000	70.0000	50.0000	50.0000	0.0 N	10.0000	50.0000	20.0000
	67AMM313	1.0000	0.0 N	15.0000	100.0000	30.0000	50.0000	0.0 N	15.0000	50.0000	15.0000
SA-1	67ADV34	1.5000	0.0 N	0.0 N	0.0 N	15.0000	30.0000	0.0 N	0.0 N	5.0000	70.0000
	67ADV35	1.0000	0.0 N	0.0 N	0.0 N	7.0000	50.0000	0.0 N	0.0 N	0.0 N	20.0000
	67ADV32	1.5000	0.0 N	10.0000	50.0000	30.0000	200.0000	5.0000	0.0 N	15.0000	30.0000
	67AMM171	1.0000	0.0 N	0.0 N	0.0 N	20.0000	0.0 N	0.0 N	0.0 N	0.0 N	30.0000
	67AMM169	1.0000	0.0 N	0.0 N	0.0 N	30.0000	20.0000	0.0 N	0.0 N	3.0000	30.0000
	67AMM170	1.5000	0.0 N	15.0000	30.0000	30.0000	30.0000	7.0000	0.0 N	7.0000	50.0000
	67AMM167	1.0000	0.0 N	0.0 N	0.0 N	20.0000	20.0000	0.0 N	0.0 N	2.0000	20.0000
	65AMM169	1.5000	0.0 N	5.0000	20.0000	15.0000	50.0000	0.0 N	10.0000	7.0000	50.0000
SA-2	67AMM101	2.0000	0.0 N	10.0000	50.0000	20.0000	50.0000	0.0 N	20.0000	15.0000	20.0000
	67AMM102	0.0 N	0.0 N	0.0 N	20.0000	10.0000	0.0 N	0.0 N	0.0 B	15.0000	150.0000
	67AMM100	1.5000	0.0 N	0.0 N	30.0000	30.0000	30.0000	0.0 N	0.0 N	15.0000	30.0000
	67AMM99	1.5000	0.0 N	0.0 N	30.0000	30.0000	70.0000	0.0 N	0.0 N	15.0000	50.0000
	67AMM96	1.5000	0.0 N	0.0 N	50.0000	20.0000	30.0000	0.0 N	0.0 N	15.0000	30.0000
	67AMM97	1.5000	0.0 N	0.0 N	70.0000	30.0000	30.0000	7.0000	0.0 N	15.0000	100.0000
	67AMM95	1.0000	0.0 N	0.0 N	30.0000	20.0000	20.0000	0.0 N	0.0 N	15.0000	50.0000
	67AMM94	1.5000	0.0 N	0.0 N	50.0000	20.0000	20.0000	0.0 N	0.0 N	15.0000	50.0000
	67AMM93	0.0 N	0.0 N	0.0 N	50.0000	20.0000	30.0000	0.0 N	0.0 N	10.0000	70.0000
	67AMM92	1.0000	0.0 N	0.0 N	15.0000	20.0000	70.0000	0.0 N	0.0 N	10.0000	50.0000
	67AMM91	1.0000	0.0 N	0.0 N	20.0000	20.0000	50.0000	0.0 N	0.0 N	15.0000	30.0000
	67AMM98	1.5000	0.0 N	10.0000	70.0000	20.0000	20.0000	0.0 N	0.0 N	20.0000	50.0000
	67AMM103	0.0 N	0.0 N	0.0 N	20.0000	30.0000	0.0 N	0.0 N	0.0 B	20.0000	50.0000
SA-3	67AMM122	1.0000	0.0 N	0.0 N	200.0000	20.0000	50.0000	0.0 N	0.0 N	20.0000	30.0000
	67AMM121	1.0000	0.0 N	0.0 N	15.0000	15.0000	30.0000	0.0 N	0.0 N	10.0000	70.0000
	67AMM120	1.0000	0.0 N	10.0000	50.0000	50.0000	70.0000	0.0 N	0.0 N	20.0000	70.0000
	67AMM106	0.0 N	0.0 N	0.0 N	20.0000	15.0000	0.0 N	0.0 N	0.0 B	15.0000	50.0000
	67AMM105	0.0 N	0.0 N	0.0 N	20.0000	15.0000	0.0 N	0.0 N	0.0 B	15.0000	50.0000
	66AMM75	2.0000	0.0 N	15.0000	50.0000	50.0000	150.0000	7.0000	30.0000	30.0000	50.0000
	67AMM213	3.0000	0.0 N	0.0 N	10.0000	20.0000	30.0000	0.0 N	0.0 N	5.0000	20.0000
	67AMM215	3.0000	0.0 N	0.0 N	0.0 N	15.0000	20.0000	0.0 N	0.0 N	0.0 N	30.0000
	67AMM214	5.0000	0.0 N	0.0 N	0.0 N	10.0000	30.0000	0.0 N	0.0 N	0.0 N	50.0000
	66AMM74	7.0000	0.0 N	7.0000	30.0000	50.0000	100.0000	5.0000	50.0000	15.0000	70.0000
SA-4	67ADV121	1.0000	0.0 N	10.0000	50.0000	30.0000	30.0000	0.0 N	0.0 N	20.0000	150.0000
	67ADV122	1.0000	0.0 N	15.0000	100.0000	30.0000	30.0000	0.0 N	0.0 N	30.0000	70.0000
	66AMM70	1.5000	0.0 N	20.0000	150.0000	70.0000	50.0000	3.0000	15.0000	50.0000	30.0000
	66AMM71	2.0000	0.0 N	20.0000	100.0000	100.0000	100.0000	7.0000	15.0000	50.0000	100.0000
SB-1	64AMM126	2.0000	0.0 N	3.0000	10.0000	10.0000	50.0000	0.0 N	20.0000	5.0000	50.0000

TABLE 1. SED. SAMPLE ANALYSES

QUAD	SAMPLE	SB PPM	SC PPM	SN PPM	SR PPM	V PPM	W PPM	Y PPM	ZN PPM	ZR PPM
HB-6	67AMM337	0.0 N	0.0 B	0.0 N	700.0000	100.0000	0.0 N	30.0000	0.0 N	500.0000
	67AMM338	0.0 N	0.0 B	0.0 N	500.0000	150.0000	0.0 N	30.0000	0.0 N	300.0000
	67AMM336	0.0 N	0.0 B	0.0 N	1000.0000	100.0000	0.0 N	30.0000	0.0 N	300.0000
	67AMM339	0.0 N	0.0 B	0.0 N	1500.0000	100.0000	0.0 N	50.0000	0.0 N	300.0000
	67AMM334	0.0 N	0.0 B	0.0 N	1000.0000	100.0000	0.0 N	30.0000	0.0 N	150.0000
HC-4	67AMM314	0.0 N	0.0 B	0.0 N	500.0000	150.0000	0.0 N	30.0000	0.0 N	200.0000
	67AMM315	0.0 N	0.0 B	0.0 N	500.0000	150.0000	0.0 N	50.0000	0.0 N	700.0000
	67AMM316	0.0 N	0.0 B	0.0 N	300.0000	150.0000	0.0 N	50.0000	0.0 N	150.0000
	67AMM317	0.0 N	0.0 B	0.0 N	300.0000	100.0000	0.0 N	20.0000	0.0 N	300.0000
	67AMM308	0.0 N	0.0 B	0.0 N	300.0000	150.0000	0.0 N	30.0000	300.0000	150.0000
	67AMM318	0.0 N	0.0 B	0.0 N	150.0000	150.0000	0.0 N	30.0000	0.0 N	200.0000
	67AMM319	0.0 N	0.0 B	0.0 N	100.0000	100.0000	0.0 N	30.0000	0.0 N	150.0000
HD-4	67AMM312	0.0 N	0.0 B	0.0 N	300.0000	100.0000	0.0 N	30.0000	0.0 N	300.0000
	67AMM313	0.0 N	0.0 B	0.0 N	200.0000	70.0000	0.0 N	30.0000	0.0 N	200.0000
SA-1	67ADV34	0.0 N	0.0 N	0.0 N	700.0000	50.0000	0.0 N	7.0000	0.0 N	150.0000
	67ADV35	0.0 N	0.0 N	0.0 N	700.0000	50.0000	0.0 N	5.0000	0.0 N	100.0000
	67ADV32	0.0 N	5.0000	0.0 N	500.0000	100.0000	0.0 N	15.0000	0.0 N	150.0000
	67AMM171	0.0 N	0.0 N	0.0 N	500.0000	30.0000	0.0 N	0.0 N	0.0 N	50.0000
	67AMM169	0.0 N	0.0 N	0.0 N	700.0000	30.0000	0.0 N	0.0 N	0.0 N	70.0000
	67AMM170	0.0 N	7.0000	0.0 N	300.0000	100.0000	0.0 N	20.0000	0.0 N	150.0000
	67AMM167	0.0 N	0.0 N	0.0 N	500.0000	50.0000	0.0 N	0.0 N	0.0 N	70.0000
	65AMM169	0.0 N	0.0 N	0.0 N	700.0000	50.0000	0.0 N	15.0000	0.0 N	200.0000
SA-2	67AMM101	0.0 N	7.0000	0.0 N	1000.0000	150.0000	0.0 N	20.0000	0.0 N	150.0000
	67AMM102	0.0 N	0.0 N	0.0 N	700.0000	30.0000	0.0 N	0.0 N	0.0 N	70.0000
	67AMM100	0.0 N	7.0000	0.0 N	1000.0000	100.0000	0.0 N	15.0000	0.0 N	150.0000
	67AMM99	0.0 N	7.0000	0.0 N	1000.0000	150.0000	0.0 N	15.0000	0.0 N	150.0000
	67AMM96	0.0 N	10.0000	0.0 N	1000.0000	100.0000	0.0 N	20.0000	0.0 N	100.0000
	67AMM97	0.0 N	10.0000	0.0 N	700.0000	150.0000	0.0 N	15.0000	0.0 N	70.0000
	67AMM95	0.0 N	5.0000	0.0 N	700.0000	70.0000	0.0 N	10.0000	0.0 N	70.0000
	67AMM94	0.0 N	7.0000	0.0 N	700.0000	150.0000	0.0 N	20.0000	0.0 N	300.0000
	67AMM93	0.0 N	7.0000	0.0 N	500.0000	70.0000	0.0 N	7.0000	0.0 N	100.0000
	67AMM92	0.0 N	7.0000	0.0 N	500.0000	70.0000	0.0 N	7.0000	0.0 N	70.0000
	67AMM91	0.0 N	5.0000	0.0 N	500.0000	100.0000	0.0 N	10.0000	0.0 N	100.0000
	67AMM98	0.0 N	7.0000	0.0 N	1000.0000	150.0000	0.0 N	15.0000	0.0 N	70.0000
	67AMM103	0.0 N	0.0 N	0.0 N	700.0000	30.0000	0.0 N	0.0 N	0.0 N	20.0000
SA-3	67AMM122	0.0 N	7.0000	0.0 N	700.0000	70.0000	0.0 N	5.0000	0.0 N	70.0000
	67AMM121	0.0 N	5.0000	0.0 N	500.0000	30.0000	0.0 N	0.0 N	0.0 N	30.0000
	67AMM120	0.0 N	7.0000	0.0 N	700.0000	70.0000	0.0 N	7.0000	0.0 N	30.0000
	67AMM106	0.0 N	0.0 N	0.0 N	500.0000	50.0000	0.0 N	5.0000	0.0 N	30.0000
	67AMM105	0.0 N	0.0 N	0.0 N	700.0000	30.0000	0.0 N	0.0 N	0.0 N	20.0000
	66AMM75	0.0 N	20.0000	0.0 N	1000.0000	100.0000	0.0 N	30.0000	0.0 N	500.0000
	67AMM213	0.0 N	0.0 N	0.0 N	300.0000	50.0000	0.0 N	10.0000	0.0 N	100.0000
	67AMM215	0.0 N	0.0 N	0.0 N	0.0 N	15.0000	0.0 N	0.0 N	0.0 N	30.0000
	67AMM214	0.0 N	0.0 N	0.0 N	0.0 N	15.0000	0.0 N	0.0 N	0.0 N	100.0000
	66AMM74	0.0 N	7.0000	0.0 N	500.0000	70.0000	0.0 N	20.0000	0.0 N	1000.0000
SA-4	67ADV121	0.0 N	10.0000	0.0 N	150.0000	70.0000	0.0 N	10.0000	0.0 N	200.0000
	67ADV122	0.0 N	10.0000	0.0 N	300.0000	100.0000	0.0 N	10.0000	0.0 N	200.0000
	66AMM70	0.0 N	20.0000	0.0 N	500.0000	150.0000	0.0 N	30.0000	0.0 N	200.0000
	66AMM71	0.0 N	20.0000	0.0 N	1000.0000	150.0000	0.0 N	20.0000	0.0 N	300.0000
SB-1	64AMM126	0.0 N	0.0 N	0.0 N	700.0000	70.0000	0.0 N	15.0000	0.0 N	150.0000

TABLE 1. SED. SAMPLE ANALYSES

QUAD	SAMPLE	FE PCT	MG PCT	CA PCT	TI PCT	MN PPM	AG PPM	AS PPM	AU PPM	B PPM	BA PPM
SB-1	64AMM127	3.0000	0.7000	2.0000	0.2000	500.0000	0.0 N	0.0 N	0.0 B	0.0 N	2000.0000
	64AMM128	5.0000	1.5000	3.0000	0.5000	700.0000	0.0 N	0.0 N	0.0 B	20.0000	2000.0000
	64AMM129	7.0000	1.5000	2.0000	0.3000	700.0000	0.0 N	0.0 N	0.0 B	20.0000	2000.0000
	67AMM332	7.0000	2.0000	5.0000	0.7000	1000.0000	0.0 N	0.0 N	0.0 N	20.0000L	2000.0000
	67AMM330	7.0000	1.5000	0.7000	1.0000	700.0000	0.0 N	0.0 N	0.0 N	70.0000	1500.0000
	67AMM331	7.0000	2.0000	5.0000	0.5000	1000.0000	0.0 N	0.0 N	0.0 N	0.0 N	1500.0000
	67AMM329	7.0000	5.0000	5.0000	0.7000	1500.0000	0.0 N	0.0 N	0.0 N	20.0000L	1500.0000
	67AMM328	5.0000	3.0000	7.0000	1.0000	1500.0000	0.0 N	0.0 N	0.0 N	20.0000L	2000.0000
	67AMM333	5.0000	1.5000	5.0000	0.5000	700.0000	0.0 N	0.0 N	0.0 N	20.0000L	3000.0000
	64AMM131	7.0000	1.5000	3.0000	0.3000	1000.0000	0.0 N	0.0 N	0.0 B	15.0000	2000.0000
	67AMM165	3.0000	1.0000	2.0000	0.2000	500.0000	0.0 N	0.0 N	0.0 N	15.0000	2000.0000
	67AMM166	10.0000	1.5000	3.0000	0.5000	700.0000	0.0 N	0.0 N	0.0 N	20.0000	1000.0000
	67ADV145	10.0000G	3.0000	7.0000	1.0000	1500.0000	0.0 N	0.0 N	0.0 N	0.0 N	3000.0000
	67ADV146	10.0000G	2.0000	7.0000	0.7000	1500.0000	0.0 N	0.0 N	0.0 N	0.0 N	3000.0000
	67ADV170	7.0000	2.0000	3.0000	0.7000	1000.0000	0.0 N	0.0 N	0.0 N	20.0000L	3000.0000
	67ADV169	7.0000	3.0000	5.0000	0.7000	1500.0000	0.0 N	0.0 N	0.0 N	20.0000L	2000.0000
	67ADV147	10.0000G	3.0000	7.0000	1.0000	1500.0000	0.0 N	0.0 N	0.0 N	0.0 N	2000.0000
	67ADV149	7.0000	3.0000	7.0000	0.7000	1000.0000	0.0 N	0.0 N	0.0 N	30.0000	2000.0000
	67ADV150	7.0000	2.0000	5.0000	0.7000	1500.0000	0.0 N	0.0 N	0.0 N	0.0 N	1500.0000
	67ADV151	10.0000	3.0000	7.0000	1.5000	1500.0000	0.0 N	0.0 N	0.0 N	0.0 N	3000.0000
	67ADV98	7.0000	1.5000	1.5000	0.3000	1000.0000	0.0 N	0.0 N	0.0 N	15.0000	1500.0000
	67ADV105	10.0000	1.5000	1.5000	0.3000	1000.0000	0.0 N	0.0 N	0.0 N	0.0 N	1000.0000
	67ADV104	7.0000	1.5000	1.5000	0.2000	700.0000	0.0 N	0.0 N	0.0 N	0.0 N	1000.0000
	67ADV106	10.0000	1.5000	1.5000	0.5000	2000.0000	0.0 N	0.0 N	0.0 N	0.0 N	1000.0000
	67ADV107	10.0000	1.5000	1.5000	0.5000	2000.0000	0.0 N	0.0 N	0.0 N	0.0 N	1000.0000
	67ADV108	10.0000	1.5000	5.0000	0.5000	1500.0000	0.0 N	0.0 N	0.0 N	0.0 N	1000.0000
	67ADV109	10.0000	1.5000	2.0000	0.5000	1500.0000	0.0 N	0.0 N	0.0 N	0.0 N	1000.0000
	65AMM77	5.0000	1.0000	2.0000	0.3000	1000.0000	0.0 N	0.0 N	0.0 N	10.0000	2000.0000
	67AMM164	5.0000	1.5000	2.0000	0.3000	1000.0000	0.0 N	0.0 N	0.0 N	20.0000	2000.0000
	67AMM176	7.0000	1.0000	2.0000	1.0000	1500.0000	0.0 N	0.0 N	0.0200	30.0000	1000.0000
	67AMM163	7.0000	1.5000	2.0000	0.3000	1000.0000	0.0 N	0.0 N	0.0 N	20.0000	2000.0000
	67AMM162	7.0000	1.0000	2.0000	0.5000	700.0000	0.0 N	0.0 N	0.0 N	10.0000	2000.0000
	67AMM161	10.0000	1.5000	2.0000	0.3000	1000.0000	0.0 N	0.0 N	0.0 N	10.0000	2000.0000
SB-2	67ADV95	5.0000	1.0000	1.5000	0.5000	1500.0000	0.0 N	0.0 N	0.0 N	15.0000	1500.0000
	67AMM175	7.0000	1.5000	1.5000	0.5000	300.0000	0.0 N	0.0 N	0.0200	70.0000	700.0000
	65AMM95	7.0000	5.0000	3.0000	0.5000	700.0000	0.0 N	0.0 N	0.0 N	0.0 N	1000.0000
	65AMM94	5.0000	1.5000	3.0000	0.5000	700.0000	0.0 N	0.0 N	0.0 N	20.0000	1500.0000
	67AMM88	3.0000	0.3000	1.5000	0.1500	300.0000	0.0 N	0.0 N	0.0 N	50.0000	1500.0000
	67ADV46	2.0000	0.7000	1.0000	0.1500	300.0000	0.0 N	0.0 N	0.0 N	0.0 N	2000.0000
	67ADV43	2.0000	0.7000	1.0000	0.1500	200.0000	0.0 N	0.0 N	0.0 N	15.0000	1500.0000
	67ADV42	3.0000	0.7000	1.0000	0.1500	700.0000	0.0 N	0.0 N	0.0 N	15.0000	2000.0000
	67ADV39	3.0000	0.7000	1.5000	0.2000	700.0000	0.0 N	0.0 N	0.0 N	15.0000	2000.0000
	65AMM170	2.0000	0.7000	2.0000	0.5000	500.0000	0.0 N	0.0 N	0.0 N	10.0000	2000.0000
	67ADV37	5.0000	0.7000	1.5000	0.2000	700.0000	0.0 N	0.0 N	0.0 N	15.0000	2000.0000
	67AMM87	2.0000	0.7000	1.5000	0.3000	500.0000	0.0 N	0.0 N	0.0 N	0.0 N	1000.0000
	65AMM171	1.5000	0.5000	1.5000	0.3000	200.0000	0.0 N	0.0 N	0.0 N	0.0 N	2000.0000
	67AMM75	5.0000	0.5000	1.5000	0.1500	300.0000	0.0 N	0.0 N	0.0 N	30.0000	1000.0000
	67AMM86	2.0000	0.3000	1.0000	0.1000	300.0000	0.0 N	0.0 N	0.0 N	0.0 N	1000.0000
	65AMM172	1.5000	0.3000	1.5000	0.3000	200.0000	0.0 N	0.0 N	0.0 N	10.0000	2000.0000
	67AMM78	3.0000	0.7000	2.0000	0.2000	300.0000	0.0 N	0.0 N	0.0 N	10.0000	1000.0000

TABLE 1. SED. SAMPLE ANALYSES

QUAD	SAMPLE	BE PPM	BI PPM	CO PPM	CR PPM	CU PPM	LA PPM	MO PPM	NB PPM	NI PPM	PB PPM
58-1	64AMM127	2.0000	0.0 N	10.0000	15.0000	20.0000	50.0000	0.0 N	15.0000	15.0000	50.0000
	64AMM128	2.0000	0.0 N	20.0000	150.0000	50.0000	100.0000	0.0 N	20.0000	50.0000	50.0000
	64AMM129	2.0000	0.0 N	20.0000	70.0000	70.0000	70.0000	0.0 N	15.0000	50.0000	50.0000
	67AMM332	2.0000	0.0 N	20.0000	70.0000	100.0000	200.0000	0.0 N	15.0000	70.0000	30.0000
	67AMM330	15.0000	0.0 N	20.0000	150.0000	100.0000	70.0000	0.0 N	10.0000	70.0000	30.0000
	67AMM331	1.0000	0.0 N	20.0000	70.0000	150.0000	150.0000	0.0 N	10.0000	50.0000	50.0000
	67AMM329	1.5000	0.0 N	30.0000	300.0000	150.0000	150.0000	0.0 N	10.0000	150.0000	30.0000
	67AMM328	1.0000	0.0 N	30.0000	150.0000	100.0000	150.0000	0.0 N	10.0000	70.0000	30.0000
	67AMM333	2.0000	0.0 N	15.0000	20.0000	30.0000	200.0000	0.0 N	15.0000	20.0000	30.0000
	64AMM131	2.0000	0.0 N	20.0000	200.0000	50.0000	100.0000	0.0 N	15.0000	70.0000	50.0000
	67AMM165	1.5000	0.0 N	10.0000	100.0000	20.0000	50.0000	0.0 N	0.0 N	20.0000	30.0000
	67AMM166	1.5000	0.0 N	20.0000	150.0000	30.0000	50.0000	0.0 N	0.0 N	100.0000	20.0000
	67ADV145	1.5000	0.0 N	30.0000	50.0000	100.0000	100.0000	0.0 N	10.0000	30.0000	30.0000
	67ADV146	1.0000	0.0 N	30.0000	50.0000	150.0000	150.0000	0.0 N	0.0 N	30.0000	30.0000
	67ADV170	1.0000	0.0 N	20.0000	150.0000	150.0000	100.0000	0.0 N	10.0000	50.0000	30.0000
	67ADV169	0.0 N	0.0 N	30.0000	200.0000	300.0000	70.0000	0.0 N	10.0000	70.0000	30.0000
	67ADV147	1.5000	0.0 N	30.0000	200.0000	150.0000	200.0000	0.0 N	10.0000	100.0000	30.0000
	67ADV149	1.0000	15.0000	30.0000	150.0000	150.0000	150.0000	0.0 N	0.0 N	100.0000	30.0000
	67ADV150	1.0000	0.0 N	20.0000	70.0000	200.0000	70.0000	0.0 N	0.0 N	50.0000	30.0000
	67ADV151	1.5000	0.0 N	30.0000	100.0000	150.0000	150.0000	0.0 N	10.0000	70.0000	30.0000
	67ADV98	0.0 N	0.0 N	50.0000	200.0000	20.0000	100.0000	0.0 N	0.0 N	70.0000	0.0 N
	67ADV105	1.0000	0.0 N	50.0000	200.0000	50.0000	70.0000	0.0 N	0.0 N	50.0000	0.0 N
	67ADV104	1.0000	0.0 N	30.0000	70.0000	20.0000	20.0000	0.0 N	0.0 N	30.0000	20.0000
	67ADV106	0.0 N	0.0 N	30.0000	300.0000	30.0000	100.0000	0.0 N	0.0 N	20.0000	0.0 N
	67ADV107	0.0 N	0.0 N	50.0000	70.0000	30.0000	70.0000	0.0 N	0.0 N	100.0000	0.0 N
	67ADV108	0.0 N	0.0 N	70.0000	150.0000	50.0000	70.0000	0.0 N	0.0 N	200.0000	0.0 N
	67ADV109	0.0 N	0.0 N	30.0000	700.0000	30.0000	50.0000	0.0 N	0.0 N	50.0000	0.0 N
	65AMM77	0.0 N	0.0 N	15.0000	70.0000	50.0000	50.0000	0.0 N	0.0 N	30.0000	30.0000
	67AMM164	0.0 N	0.0 N	20.0000	150.0000	30.0000	70.0000	10.0000	0.0 N	30.0000	30.0000
	67AMM176	1.5000	0.0 N	20.0000	300.0000	30.0000	100.0000	5.0000	20.0000	70.0000	20.0000
	67AMM163	0.0 N	0.0 N	15.0000	70.0000	30.0000	150.0000	7.0000	0.0 N	30.0000	70.0000
	67AMM162	0.0 N	0.0 N	15.0000	70.0000	30.0000	100.0000	5.0000	0.0 N	30.0000	20.0000
	67AMM161	0.0 N	0.0 N	30.0000	150.0000	30.0000	70.0000	0.0 N	0.0 N	30.0000	20.0000
58-2	67ADV95	0.0 N	0.0 N	20.0000	200.0000	30.0000	700.0000	0.0 N	0.0 N	50.0000	0.0 N
	67AMM175	1.5000	0.0 N	30.0000	500.0000	50.0000	70.0000	0.0 N	0.0 N	150.0000	10.0000
	65AMM95	0.0 N	0.0 N	50.0000	500.0000	50.0000	50.0000	0.0 N	0.0 N	150.0000	15.0000
	65AMM94	0.0 N	0.0 N	30.0000	200.0000	70.0000	70.0000	0.0 N	0.0 N	70.0000	20.0000
	67AMM88	0.0 N	0.0 N	0.0 N	20.0000	20.0000	20.0000	0.0 N	0.0 B	15.0000	30.0000
	67ADV46	1.0000	0.0 N	0.0 N	30.0000	20.0000	50.0000	0.0 N	0.0 N	10.0000	30.0000
	67ADV43	1.5000	0.0 N	0.0 N	10.0000	20.0000	70.0000	0.0 N	0.0 N	7.0000	50.0000
	67ADV42	1.0000	0.0 N	0.0 N	15.0000	20.0000	70.0000	0.0 N	0.0 N	7.0000	70.0000
	67ADV39	1.0000	0.0 N	0.0 N	50.0000	30.0000	70.0000	0.0 N	0.0 N	10.0000	50.0000
	65AMM170	1.5000	0.0 N	10.0000	50.0000	30.0000	100.0000	3.0000	15.0000	15.0000	70.0000
	67ADV37	1.5000	0.0 N	0.0 N	70.0000	30.0000	70.0000	0.0 N	0.0 N	15.0000	100.0000
	67AMM87	0.0 N	0.0 N	0.0 N	150.0000	30.0000	20.0000	7.0000	0.0 B	15.0000	30.0000
	65AMM171	1.5000	0.0 N	7.0000	30.0000	20.0000	70.0000	3.0000	10.0000	15.0000	50.0000
	67AMM75	0.0 N	0.0 N	0.0 N	10.0000	20.0000	0.0 N	0.0 N	0.0 B	15.0000	30.0000
	67AMM86	1.0000	0.0 N	0.0 N	10.0000	20.0000	70.0000	0.0 N	0.0 N	10.0000	30.0000
	65AMM172	1.5000	0.0 N	5.0000	20.0000	20.0000	30.0000	0.0 N	10.0000	10.0000	50.0000
	67AMM78	1.5000	0.0 N	0.0 N	70.0000	50.0000	70.0000	0.0 N	0.0 N	15.0000	20.0000

TABLE 1. SED. SAMPLE ANALYSES

QUAD	SAMPLE	SB PPM	SC PPM	SN PPM	SR PPM	V PPM	W PPM	Y PPM	ZN PPM	ZR PPM
SQ-1	64AMM127	0.0 N	7.0000	0.0 N	1500.0000	100.0000	0.0 N	15.0000	0.0 N	100.0000
	64AMM128	0.0 N	20.0000	0.0 N	2000.0000	200.0000	0.0 N	20.0000	0.0 N	150.0000
	64AMM129	0.0 N	20.0000	0.0 N	2000.0000	200.0000	0.0 N	20.0000	0.0 N	150.0000
	67AMM332	0.0 N	0.0 B	0.0 N	1000.0000	150.0000	0.0 N	70.0000	0.0 N	300.0000
	67AMM330	0.0 N	0.0 B	0.0 N	200.0000	150.0000	0.0 N	50.0000	0.0 N	300.0000
	67AMM331	0.0 N	0.0 B	0.0 N	1000.0000	150.0000	0.0 N	30.0000	0.0 N	300.0000
	67AMM329	0.0 N	0.0 B	0.0 N	700.0000	150.0000	0.0 N	30.0000	0.0 N	200.0000
	67AMM328	0.0 N	0.0 B	0.0 N	1000.0000	200.0000	0.0 N	50.0000	0.0 N	300.0000
	67AMM333	0.0 N	0.0 B	0.0 N	1500.0000	70.0000	0.0 N	30.0000	0.0 N	200.0000
	64AMM131	0.0 N	20.0000	0.0 N	2000.0000	200.0000	0.0 N	30.0000	0.0 N	200.0000
	67AMM165	0.0 N	10.0000	0.0 N	1000.0000	70.0000	0.0 N	5.0000	0.0 N	50.0000
	67AMM166	0.0 N	20.0000	0.0 N	1000.0000	150.0000	0.0 N	15.0000	0.0 N	150.0000
	67ADV145	0.0 N	0.0 B	30.0000	1500.0000	200.0000	0.0 N	50.0000	0.0 N	300.0000
	67ADV146	0.0 N	0.0 B	10.0000	1500.0000	200.0000	0.0 N	50.0000	0.0 N	200.0000
	67ADV170	0.0 N	0.0 B	0.0 N	1500.0000	100.0000	0.0 N	20.0000	0.0 N	200.0000
	67ADV169	0.0 N	0.0 B	0.0 N	1000.0000	150.0000	0.0 N	30.0000	0.0 N	300.0000
	67ADV147	0.0 N	0.0 B	0.0 N	1500.0000	200.0000	0.0 N	50.0000	0.0 N	700.0000
	67ADV149	0.0 N	0.0 B	0.0 N	1500.0000	150.0000	0.0 N	30.0000	0.0 N	200.0000
	67ADV150	0.0 N	0.0 B	0.0 N	1000.0000	150.0000	0.0 N	30.0000	0.0 N	200.0000
	67ADV151	0.0 N	0.0 B	0.0 N	2000.0000	150.0000	0.0 N	30.0000	0.0 N	300.0000
	67ADV98	0.0 N	30.0000	0.0 N	700.0000	150.0000	0.0 N	20.0000	0.0 N	150.0000
	67ADV105	0.0 N	30.0000	0.0 N	700.0000	200.0000	0.0 N	15.0000	0.0 N	150.0000
	67ADV104	0.0 N	7.0000	0.0 N	1000.0000	100.0000	0.0 N	5.0000	0.0 N	150.0000
	67ADV106	0.0 N	30.0000	0.0 N	700.0000	200.0000	0.0 N	15.0000	0.0 N	150.0000
	67ADV107	0.0 N	30.0000	0.0 N	700.0000	200.0000	0.0 N	15.0000	0.0 N	150.0000
	67ADV108	0.0 N	50.0000	0.0 N	700.0000	200.0000	0.0 N	15.0000	0.0 N	150.0000
	67ADV109	0.0 N	20.0000	0.0 N	1000.0000	200.0000	0.0 N	10.0000	0.0 N	150.0000
	65AMM77	0.0 N	20.0000	0.0 N	700.0000	150.0000	0.0 N	30.0000	0.0 N	150.0000
	67AMM164	0.0 N	20.0000	0.0 N	700.0000	70.0000	0.0 N	15.0000	0.0 N	200.0000
	67AMM176	0.0 N	20.0000	0.0 N	1000.0000	150.0000	0.0 N	30.0000	0.0 N	100.0000
	67AMM163	0.0 N	10.0000	0.0 N	1500.0000	100.0000	0.0 N	15.0000	0.0 N	100.0000
	67AMM162	0.0 N	20.0000	0.0 N	1000.0000	150.0000	0.0 N	15.0000	0.0 N	100.0000
	67AMM161	0.0 N	15.0000	0.0 N	500.0000	200.0000	0.0 N	15.0000	0.0 N	150.0000
SQ-2	67ADV95	0.0 N	30.0000	0.0 N	700.0000	200.0000	0.0 N	20.0000	0.0 N	150.0000
	67AMM175	0.0 N	30.0000	0.0 N	300.0000	150.0000	0.0 N	15.0000	0.0 N	150.0000
	65AMM95	0.0 N	50.0000	0.0 N	500.0000	200.0000	0.0 N	30.0000	0.0 N	100.0000
	65AMM94	0.0 N	30.0000	0.0 N	500.0000	200.0000	0.0 N	30.0000	0.0 N	150.0000
	67AMM88	0.0 N	0.0 N	0.0 N	700.0000	70.0000	0.0 N	0.0 N	0.0 N	100.0000
	67ADV46	0.0 N	0.0 N	0.0 N	700.0000	50.0000	0.0 N	5.0000	0.0 N	20.0000
	67ADV43	0.0 N	0.0 N	0.0 N	700.0000	70.0000	0.0 N	5.0000	0.0 N	200.0000
	67ADV42	0.0 N	5.0000	0.0 N	700.0000	70.0000	0.0 N	7.0000	0.0 N	50.0000
	67ADV39	0.0 N	5.0000	10.0000	700.0000	100.0000	0.0 N	7.0000	0.0 N	30.0000
	65AMM170	0.0 N	10.0000	0.0 N	1000.0000	100.0000	0.0 N	20.0000	0.0 N	300.0000
	67ADV37	0.0 N	7.0000	0.0 N	1000.0000	70.0000	0.0 N	10.0000	0.0 N	200.0000
	67AMM87	0.0 N	15.0000	0.0 N	700.0000	50.0000	0.0 N	0.0 N	0.0 N	200.0000
	65AMM171	0.0 N	5.0000	0.0 N	700.0000	50.0000	0.0 N	10.0000	0.0 N	200.0000
	67AMM75	0.0 N	0.0 N	0.0 N	500.0000	100.0000	0.0 N	0.0 N	0.0 N	50.0000
	67AMM86	0.0 N	7.0000	0.0 N	700.0000	30.0000	0.0 N	7.0000	0.0 N	70.0000
	65AMM172	0.0 N	0.0 N	0.0 N	700.0000	50.0000	0.0 N	10.0000	0.0 N	70.0000
	67AMM78	0.0 N	7.0000	0.0 N	700.0000	150.0000	0.0 N	15.0000	0.0 N	300.0000

TABLE 1. SED. SAMPLE ANALYSES

QUAD	SAMPLE	FE PCT	MG PCT	CA PCT	TI PCT	MN PPM	AG PPM	AS PPM	AU PPM	B PPM	BA PPM
SB-2	67AMM77	3.0000	0.7000	1.5000	0.2000	300.0000	0.0 N	0.0 N	0.0 N	0.0 N	700.0000
	67AMM81	3.0000	0.7000	1.5000	0.1500	300.0000	0.0 N	0.0 N	0.0 N	0.0 N	1000.0000
	67AMM80	3.0000	0.7000	1.5000	0.1500	700.0000	0.0 N	0.0 N	0.0 N	0.0 N	1000.0000
	67AMM82	7.0000	1.0000	1.5000	0.3000	700.0000	0.0 N	0.0 N	0.0 N	20.0000	1000.0000
	67AMM83	3.0000	0.5000	1.0000	0.1500	500.0000	0.0 N	0.0 N	0.0 N	15.0000	1000.0000
	67AMM85	5.0000	0.7000	1.5000	0.2000	700.0000	0.0 N	0.0 N	0.0 N	0.0 N	1000.0000
	67AMM37	7.0000	1.0000	2.0000	0.1500	1500.0000	0.0 N	0.0 N	0.0 N	50.0000	700.0000
	67AMM38	3.0000	0.7000	1.5000	0.5000	300.0000	0.0 N	0.0 N	0.0 N	30.0000	1000.0000
	65AMM242	2.0000	0.7000	2.0000	0.2000	500.0000	0.7000	0.0 N	0.0 N	0.0 N	2000.0000
	67AMM36	3.0000	0.7000	1.5000	0.1500	700.0000	0.0 N	0.0 N	0.0 N	10.0000	1500.0000
	67AMM34	2.0000	0.7000	1.0000	0.1500	700.0000	0.0 N	0.0 N	0.0 N	0.0 N	1000.0000
	67AMM35	2.0000	0.5000	1.0000	0.0700	200.0000	0.0 N	0.0 N	0.0 N	0.0 N	1000.0000
	67AMM243	3.0000	0.7000	1.5000	0.3000	300.0000	0.0 N	0.0 N	0.0 N	70.0000	1000.0000
SB-3	65AMM241	5.0000	0.7000	2.0000	0.5000	500.0000	0.7000	0.0 N	0.0 N	100.0000	1500.0000
	65AMM240	3.0000	0.7000	1.5000	0.5000	500.0000	0.7000L	0.0 N	0.0 N	50.0000	1500.0000
	65AMM239	3.0000	0.7000	1.5000	0.5000	700.0000	0.0 N	0.0 N	0.0 N	20.0000	1500.0000
	67AMM241	3.0000	0.7000	1.5000	0.3000	700.0000	0.0 N	0.0 N	0.0 N	100.0000	1000.0000
	67AMM33	5.0000	0.7000	1.5000	0.3000	1000.0000	0.0 N	0.0 N	0.0 N	15.0000	1500.0000
	67AMM123	2.0000	0.7000	1.5000	0.1500	300.0000	0.0 N	0.0 N	0.0 N	0.0 N	1500.0000
	67AMM216	1.5000	0.7000	0.7000	0.1500	1000.0000	0.0 N	0.0 N	0.0 N	0.0 N	1000.0000
	67AMM217	1.5000	0.5000	0.5000	0.1500	700.0000	0.0 N	0.0 N	0.0 N	10.0000	700.0000
	67AMM22	2.0000	0.3000	0.5000	0.1500	700.0000	0.0 N	0.0 N	0.0 N	20.0000	300.0000
	67AMM234	3.0000	0.7000	1.5000	0.2000	500.0000	0.0 N	0.0 N	0.0 N	10.0000	1500.0000
	67AMM23	2.0000	0.7000	0.7000	0.1500	500.0000	0.0 N	0.0 N	0.0 N	15.0000	1500.0000
	67AMM233	2.0000	0.7000	1.0000	0.1500	500.0000	0.0 N	0.0 N	0.0 N	30.0000	1500.0000
	65AMM238	2.0000	0.5000	1.0000	0.3000	500.0000	0.7000L	0.0 N	0.0 N	10.0000	1500.0000
SB-4	67AMM24	3.0000	0.7000	1.0000	0.2000	700.0000	0.0 N	0.0 N	0.0 N	0.0 N	1000.0000
	67AMM230	3.0000	0.7000	1.5000	0.1500	300.0000	0.0 N	0.0 N	0.0 N	15.0000	1000.0000
	67AMM231	5.0000	0.7000	0.7000	0.3000	300.0000	0.0 N	0.0 N	0.0 N	50.0000	1000.0000
	67AMM232	7.0000	1.0000	2.0000	0.3000	500.0000	0.0 N	0.0 N	0.0 N	50.0000	1000.0000
	67AMM228	3.0000	0.7000	1.5000	0.3000	300.0000	0.0 N	0.0 N	0.0 N	20.0000	1000.0000
	67AMM229	2.0000	0.3000	1.0000	0.1000	100.0000	0.0 N	0.0 N	0.0 N	30.0000	1000.0000
	65AMM237	2.0000	0.3000	1.5000	0.3000	300.0000	0.0 N	0.0 N	0.0 N	30.0000	1000.0000
	67AMM227	2.0000	0.5000	0.7000	0.2000	500.0000	0.0 N	0.0 N	0.0 N	20.0000	1000.0000
	67AMM226	1.5000	0.3000	1.5000	0.1500	300.0000	0.0 N	0.0 N	0.0 N	200.0000	700.0000
	67AMM225	1.5000	0.3000	1.5000	0.1500	300.0000	0.0 N	0.0 N	0.0 N	15.0000	1500.0000
	67AMM58	5.0000	0.7000	1.5000	0.1500	500.0000	0.0 N	0.0 N	0.0 N	30.0000	700.0000
	67AMM279	7.0000	1.5000	7.0000	0.7000	1000.0000	0.0 N	0.0 N	0.0 N	20.0000	1500.0000
	67AMM280	3.0000	1.5000	3.0000	0.5000	700.0000	0.0 N	0.0 N	0.0 N	20.0000	1500.0000
	67AMM281	5.0000	1.0000	5.0000	1.0000	700.0000	0.0 N	0.0 N	0.0 N	20.0000	1500.0000
	67AMM284	7.0000	3.0000	7.0000	1.0000	1000.0000	0.0 N	0.0 N	0.0300	50.0000	3000.0000
	67AMM222	7.0000	1.0000	1.5000	0.7000	500.0000	0.0 N	0.0 N	0.0 N	30.0000	1000.0000
	67AMM223	1.5000	0.3000	1.5000	0.1500	200.0000	0.0 N	0.0 N	0.0 N	0.0 N	1500.0000
	67AMM221	0.7000	0.3000	1.0000	0.1000	100.0000	0.0 N	0.0 N	0.0 N	0.0 N	1500.0000
	67AMM220	1.0000	0.3000	1.5000	1.5000	150.0000	0.0 N	0.0 N	0.0 N	10.0000	1000.0000
	67AMM198	7.0000	1.0000	2.0000	0.5000	1500.0000	0.0 N	0.0 N	0.0 N	70.0000	1000.0000
	67AMM199	7.0000	1.0000	1.5000	0.7000	1500.0000	0.0 N	0.0 N	0.0 N	70.0000	1000.0000
	67AMM204	7.0000	0.7000	0.7000	0.7000	1500.0000	0.5000	0.0 N	0.0 N	100.0000	1500.0000
	67AMM203	7.0000	1.0000	1.0000	0.7000	1500.0000	0.0 N	0.0 N	0.0 N	100.0000	1000.0000
	67AMM202	7.0000	1.5000	1.5000	0.7000	1500.0000	0.0 N	0.0 N	0.0 N	70.0000	1000.0000

TABLE 1. SED. SAMPLE ANALYSES

QUAD	SAMPLE	BE PPM	BI PPM	CO PPM	CR PPM	CU PPM	LA PPM	MO PPM	NB PPM	NI PPM	PB PPM
SB-2	67AMM77	0.0 N	0.0 N	0.0 N	30.0000	20.0000	70.0000	0.0 N	0.0 N	20.0000	20.0000
	67AMM81	1.0000	0.0 N	0.0 N	30.0000	20.0000	20.0000	0.0 N	0.0 N	20.0000	15.0000
	67AMM80	0.0 N	0.0 N	0.0 N	100.0000	10.0000	300.0000	0.0 N	0.0 N	10.0000	15.0000
	67AMM82	2.0000	0.0 N	15.0000	70.0000	30.0000	100.0000	10.0000	0.0 N	30.0000	70.0000
	67AMM83	1.5000	0.0 N	0.0 N	30.0000	20.0000	30.0000	5.0000	0.0 N	15.0000	50.0000
	67AMM85	0.0 N	0.0 N	0.0 N	50.0000	20.0000	50.0000	0.0 N	0.0 N	10.0000	50.0000
	67AMM37	0.0 N	0.0 N	20.0000	50.0000	50.0000	50.0000	0.0 N	0.0 N	20.0000	30.0000
	67AMM38	0.0 N	0.0 N	0.0 N	70.0000	30.0000	30.0000	0.0 N	0.0 N	15.0000	30.0000
	65AMM242	1.5000	0.0 N	10.0000	70.0000	50.0000	30.0000	5.0000	0.0 N	20.0000	70.0000
	67AMM36	1.0000	0.0 N	10.0000	150.0000	30.0000	0.0 N	0.0 N	0.0 N	15.0000	50.0000
	67AMM34	0.0 N	0.0 N	0.0 N	15.0000	15.0000	100.0000	0.0 N	0.0 N	7.0000	50.0000
	67AMM35	0.0 N	0.0 N	0.0 N	70.0000	10.0000	0.0 N	0.0 N	0.0 N	5.0000	70.0000
	67AMM243	2.0000	0.0 N	0.0 N	20.0000	30.0000	70.0000	0.0 N	0.0 N	10.0000	70.0000
SB-3	65AMM241	3.0000	0.0 N	10.0000	70.0000	70.0000	100.0000	3.0000	20.0000	30.0000	70.0000
	65AMM240	5.0000	0.0 N	10.0000	50.0000	20.0000	70.0000	0.0 N	15.0000	30.0000	50.0000
	65AMM239	1.5000	0.0 N	10.0000	70.0000	20.0000	70.0000	0.0 N	20.0000	30.0000	30.0000
	67AMM241	1.5000	0.0 N	0.0 N	30.0000	20.0000	50.0000	0.0 N	0.0 N	15.0000	50.0000
	67AMM33	1.5000	0.0 N	15.0000	20.0000	30.0000	50.0000	0.0 N	0.0 N	30.0000	100.0000
	67AMM123	1.0000	0.0 N	0.0 N	70.0000	10.0000	50.0000	0.0 N	0.0 N	15.0000	70.0000
	67AMM216	3.0000	0.0 N	0.0 N	10.0000	70.0000	30.0000	0.0 N	0.0 N	10.0000	30.0000
	67AMM217	5.0000	0.0 N	0.0 N	15.0000	20.0000	50.0000	5.0000	0.0 N	5.0000	30.0000
	67AMM22	2.0000	0.0 N	0.0 N	30.0000	15.0000	30.0000	0.0 N	0.0 N	7.0000	50.0000
	67AMM234	1.5000	0.0 N	0.0 N	30.0000	30.0000	70.0000	0.0 N	0.0 N	15.0000	70.0000
	67AMM23	1.5000	0.0 N	0.0 N	50.0000	20.0000	30.0000	0.0 N	0.0 N	15.0000	50.0000
	67AMM233	1.5000	0.0 N	0.0 N	10.0000	15.0000	50.0000	5.0000	0.0 N	7.0000	10.0000
	65AMM238	3.0000	0.0 N	7.0000	30.0000	30.0000	70.0000	3.0000	20.0000	20.0000	70.0000
SB-4	67AMM24	1.5000	0.0 N	0.0 N	100.0000	15.0000	70.0000	0.0 N	0.0 N	15.0000	70.0000
	67AMM230	0.0 N	0.0 N	0.0 N	50.0000	20.0000	30.0000	5.0000	0.0 N	10.0000	20.0000
	67AMM231	1.0000	0.0 N	10.0000	70.0000	30.0000	30.0000	0.0 N	0.0 N	20.0000	20.0000
	67AMM232	1.0000	0.0 N	30.0000	150.0000	50.0000	50.0000	5.0000	0.0 N	30.0000	30.0000
	67AMM228	0.0 N	0.0 N	0.0 N	30.0000	10.0000	50.0000	0.0 N	0.0 N	15.0000	0.0 N
	67AMM229	0.0 N	0.0 N	0.0 N	10.0000	7.0000	20.0000	0.0 N	0.0 N	5.0000	0.0 N
	65AMM237	2.0000	0.0 N	7.0000	50.0000	15.0000	30.0000	0.0 N	10.0000	15.0000	30.0000
	67AMM227	1.5000	0.0 N	0.0 N	30.0000	10.0000	30.0000	0.0 N	0.0 N	5.0000	0.0 N
	67AMM226	0.0 N	0.0 N	0.0 N	150.0000	10.0000	30.0000	0.0 N	0.0 N	3.0000	15.0000
	67AMM225	0.0 N	0.0 N	0.0 N	20.0000	10.0000	30.0000	0.0 N	0.0 N	2.0000	20.0000
	67AMM58	2.0000	0.0 N	15.0000	50.0000	20.0000	70.0000	0.0 N	0.0 N	30.0000	30.0000
	67AMM279	0.0 N	0.0 N	20.0000	70.0000	70.0000	150.0000	0.0 N	15.0000	50.0000	70.0000
	67AMM280	2.0000	0.0 N	15.0000	70.0000	30.0000	70.0000	0.0 N	10.0000	30.0000	30.0000
	67AMM281	1.5000	0.0 N	15.0000N	70.0000	30.0000	100.0000	0.0 N	30.0000	30.0000	30.0000
	67AMM284	2.0000	0.0 N	30.0000	100.0000	70.0000	150.0000	0.0 N	20.0000	50.0000	30.0000
	67AMM222	1.0000	0.0 N	15.0000	50.0000	10.0000	50.0000	0.0 N	0.0 N	20.0000	30.0000
	67AMM223	0.0 N	0.0 N	0.0 N	0.0 N	10.0000	30.0000	0.0 N	0.0 N	2.0000	20.0000
	67AMM221	0.0 N	0.0 N	0.0 N	0.0 N	7.0000	30.0000	0.0 N	0.0 N	0.0 N	20.0000
	67AMM220	0.0 N	0.0 N	0.0 N	30.0000	10.0000	30.0000	0.0 N	0.0 N	5.0000	0.0 N
	67AMM198	1.0000	0.0 N	10.0000	100.0000	30.0000	50.0000	0.0 N	0.0 N	30.0000	20.0000
	67AMM199	1.5000	0.0 N	10.0000	70.0000	50.0000	50.0000	0.0 N	0.0 N	20.0000	20.0000
	67AMM204	1.5000	0.0 N	20.0000	70.0000	50.0000	50.0000	0.0 N	0.0 N	30.0000	70.0000
	67AMM203	1.5000	0.0 N	15.0000	70.0000	30.0000	50.0000	0.0 N	0.0 N	30.0000	50.0000
	67AMM202	1.5000	0.0 N	15.0000	150.0000	30.0000	50.0000	0.0 N	0.0 N	50.0000	50.0000

TABLE 1. SED. SAMPLE ANALYSES

QUAD	SAMPLE	SR PPM	SC PPM	SN PPM	SR PPM	V PPM	W PPM	Y PPM	ZN PPM	ZR PPM
58-2	67AMM77	0.0 N	7.0000	0.0 N	700.0000	100.0000	0.0 N	10.0000	0.0 N	70.0000
	67AMM81	0.0 N	5.0000	0.0 N	1000.0000	70.0000	0.0 N	0.0 N	0.0 N	70.0000
	67AMM80	0.0 N	5.0000	0.0 N	700.0000	50.0000	0.0 N	10.0000	0.0 N	150.0000
	67AMM82	0.0 N	15.0000	0.0 N	700.0000	100.0000	0.0 N	5.0000	0.0 N	70.0000
	67AMM83	0.0 N	7.0000	0.0 N	500.0000	50.0000	0.0 N	0.0 N	0.0 N	150.0000
	67AMM85	0.0 N	0.0 N	0.0 N	1000.0000	70.0000	0.0 N	5.0000	0.0 N	150.0000
	67AMM37	0.0 N	30.0000	0.0 N	300.0000	300.0000	0.0 N	15.0000	0.0 N	150.0000
	67AMM38	0.0 N	7.0000	0.0 N	700.0000	70.0000	0.0 N	5.0000	0.0 N	50.0000
	65AMM242	0.0 N	10.0000	0.0 N	500.0000	100.0000	0.0 N	7.0000	0.0 N	100.0000
	67AMM36	0.0 N	7.0000	0.0 N	700.0000	70.0000	0.0 N	7.0000	0.0 N	70.0000
	67AMM34	0.0 N	0.0 N	0.0 N	700.0000	30.0000	0.0 N	5.0000	0.0 N	30.0000
	67AMM35	0.0 N	0.0 N	0.0 N	700.0000	30.0000	0.0 N	0.0 N	0.0 N	0.0 N
	67AMM243	0.0 N	7.0000	0.0 N	700.0000	50.0000	0.0 N	7.0000	0.0 N	100.0000
58-3	65AMM241	0.0 N	15.0000	0.0 N	500.0000	150.0000	0.0 N	30.0000	0.0 N	300.0000
	65AMM240	0.0 N	7.0000	0.0 N	700.0000	70.0000	0.0 N	20.0000	0.0 N	150.0000
	65AMM239	0.0 N	10.0000	0.0 N	700.0000	150.0000	0.0 N	20.0000	0.0 N	300.0000
	67AMM241	0.0 N	7.0000	0.0 N	1000.0000	50.0000	0.0 N	10.0000	0.0 N	70.0000
	67AMM33	0.0 N	10.0000	0.0 N	700.0000	100.0000N	0.0 N	7.0000	0.0 N	150.0000
	67AMM123	0.0 N	5.0000	0.0 N	700.0000	30.0000	0.0 N	0.0 N	0.0 N	50.0000
	67AMM216	0.0 N	0.0 N	0.0 N	500.0000	30.0000	0.0 N	10.0000	0.0 N	150.0000
	67AMM217	0.0 N	0.0 N	0.0 N	200.0000	20.0000	0.0 N	10.0000	0.0 N	70.0000
	67AMM22	0.0 N	0.0 N	0.0 N	150.0000	20.0000	0.0 N	0.0 N	0.0 N	100.0000
	67AMM234	0.0 N	5.0000	0.0 N	700.0000	50.0000	0.0 N	15.0000	0.0 N	70.0000
	67AMM23	0.0 N	5.0000	0.0 N	500.0000	50.0000	0.0 N	0.0 N	0.0 N	100.0000
	67AMM233	0.0 N	0.0 N	0.0 N	700.0000	50.0000	0.0 N	10.0000	0.0 N	100.0000
	65AMM238	0.0 N	5.0000	0.0 N	500.0000	70.0000	0.0 N	15.0000	0.0 N	150.0000
58-4	67AMM24	0.0 N	5.0000	0.0 N	500.0000	50.0000	0.0 N	10.0000	0.0 N	100.0000
	67AMM230	0.0 N	0.0 N	0.0 N	700.0000	50.0000	0.0 N	5.0000	0.0 N	70.0000
	67AMM231	0.0 N	10.0000	0.0 N	200.0000	70.0000	0.0 N	10.0000	0.0 N	200.0000
	67AMM232	0.0 N	15.0000	0.0 N	700.0000	70.0000	0.0 N	15.0000	0.0 N	200.0000
	67AMM228	0.0 N	0.0 N	0.0 N	300.0000	30.0000	0.0 N	7.0000	0.0 N	50.0000
	67AMM229	0.0 N	0.0 N	0.0 N	500.0000	20.0000	0.0 N	0.0 N	0.0 N	50.0000
	65AMM237	0.0 N	5.0000	0.0 N	300.0000	50.0000	0.0 N	10.0000	0.0 N	150.0000
	67AMM227	0.0 N	0.0 N	0.0 N	300.0000	30.0000	0.0 N	7.0000	0.0 N	150.0000
	67AMM226	0.0 N	0.0 N	0.0 N	500.0000	30.0000	0.0 N	10.0000	0.0 N	30.0000
	67AMM225	0.0 N	0.0 N	0.0 N	700.0000	50.0000	0.0 N	0.0 N	0.0 N	70.0000
	67AMM58	0.0 N	7.0000	0.0 N	500.0000	100.0000	0.0 N	10.0000	0.0 N	150.0000
	67AMM279	0.0 N	0.0 B	0.0 N	1500.0000	150.0000	0.0 N	30.0000	0.0 N	500.0000
	67AMM280	0.0 N	0.0 B	0.0 N	500.0000	70.0000	0.0 N	20.0000	0.0 N	500.0000
	67AMM281	0.0 N	0.0 B	0.0 N	700.0000	100.0000	0.0 N	30.0000	0.0 N	700.0000
	67AMM284	0.0 N	0.0 B	0.0 N	1500.0000	150.0000	0.0 N	50.0000	0.0 N	500.0000
	67AMM222	0.0 N	10.0000	0.0 N	700.0000	70.0000	0.0 N	15.0000	0.0 N	300.0000
	67AMM223	0.0 N	0.0 N	0.0 N	700.0000	70.0000	0.0 N	7.0000	0.0 N	100.0000
	67AMM221	0.0 N	0.0 N	0.0 N	700.0000	15.0000	0.0 N	0.0 N	0.0 N	50.0000
	67AMM220	0.0 N	0.0 N	0.0 N	700.0000	15.0000	0.0 N	0.0 N	0.0 N	50.0000
	67AMM198	0.0 N	15.0000	0.0 N	300.0000	100.0000	0.0 N	10.0000	0.0 N	150.0000
	67AMM199	0.0 N	15.0000	0.0 N	300.0000	150.0000	0.0 N	10.0000	0.0 N	150.0000
	67AMM204	0.0 N	15.0000	0.0 N	150.0000	100.0000	0.0 N	15.0000	0.0 N	200.0000
	67AMM203	0.0 N	15.0000	0.0 N	200.0000	100.0000	0.0 N	10.0000	0.0 N	300.0000
	67AMM202	0.0 N	20.0000	0.0 N	500.0000	150.0000	0.0 N	15.0000	0.0 N	150.0000

TABLE 1. SED. SAMPLE ANALYSES

QUAD	SAMPLE	FE PCT	MG PCT	CA PCT	TI PCT	MN PPM	AG PPM	AS PPM	AU PPM	B PPM	BA PPM
SB-4	67AMM201	7.0000	1.5000	2.0000	0.7000	1500.0000	0.0 N	0.0 N	0.0 N	50.0000	1000.0000
	67AMM200	10.0000	2.0000	2.0000	1.0000	1500.0000	0.0 N	0.0 N	0.0 N	100.0000	2000.0000
	67ADV118	10.0000	1.0000	1.5000	0.5000	1500.0000	0.0 N	0.0 N	0.0 N	30.0000	2000.0000
	66AMM73	5.0000	1.0000	2.0000	0.5000	1500.0000	0.7000L	0.0 N	0.0 N	15.0000	1500.0000
	66AMM72	5.0000	1.5000	2.0000	0.7000	700.0000	0.7000L	0.0 N	0.0 N	50.0000	1500.0000
	67AMM131	5.0000	0.7000	1.0000	0.3000	500.0000	0.0 N	0.0 N	0.0 N	100.0000	1000.0000
	67AMM132	7.0000	1.0000	1.0000	0.7000	500.0000	0.0 N	0.0 N	0.0 N	100.0000	1500.0000
	66APA88	3.0000	1.5000	2.0000	0.5000	700.0000	0.0 N	0.0 N	0.0 N	50.0000	1000.0000
	66APA89	2.0000	0.7000	2.0000	0.5000	500.0000	0.0 N	0.0 N	0.0 N	15.0000	700.0000
	66APA90	3.0000	1.0000	1.5000	0.7000	1000.0000	0.0 N	0.0 N	0.0 N	20.0000	50.0000
SC-5	66APA91	3.0000	0.7000	1.0000	0.5000	1500.0000	0.0 N	0.0 N	0.0 N	50.0000	700.0000
	66APA92	3.0000	0.7000	1.5000	0.7000	700.0000	0.0 N	0.0 N	0.0 N	50.0000	300.0000
SC-6	66APA93	2.0000	0.7000	1.5000	0.3000	700.0000	0.0 N	0.0 N	0.0 N	50.0000	700.0000
	66APA94	3.0000	0.7000	1.5000	0.7000	700.0000	0.0 N	0.0 N	0.0 N	15.0000	500.0000
SC-2	65AMM245	5.0000	1.0000	3.0000	0.3000	1000.0000	1.5000	0.0 N	0.0 N	10.0000	700.0000
	65AMM244	3.0000	1.5000	2.0000	0.3000	1000.0000	0.7000L	0.0 N	0.0 N	0.0 N	500.0000
SC-3	65AMM243	5.0000	1.0000	2.0000	0.5000	700.0000	0.7000L	0.0 N	0.0 N	10.0000	70.0000

TABLE 1. SED. SAMPLE ANALYSES

QUAD	SAMPLE	BE PPM	BI PPM	CO PPM	CR PPM	CU PPM	LA PPM	MO PPM	NB PPM	NI PPM	PB PPM
SB-4	67AMM201	1.5000	0.0 N	15.0000	70.0000	50.0000	50.0000	7.0000	0.0 N	30.0000	20.0000
	67AMM200	1.5000	0.0 N	15.0000	150.0000	30.0000	70.0000	0.0 N	0.0 N	50.0000	30.0000
	67ADV118	1.0000	0.0 N	15.0000	70.0000	50.0000	30.0000	0.0 N	0.0 N	20.0000	100.0000
	66AMM73	3.0000	0.0 N	30.0000	100.0000	100.0000	100.0000	5.0000	15.0000	50.0000	150.0000
	66AMM72	1.5000	0.0 N	30.0000	150.0000	100.0000	70.0000	5.0000	15.0000	50.0000	50.0000
	67AMM131	1.0000	0.0 N	15.0000	100.0000	30.0000	50.0000	0.0 N	0.0 N	30.0000	50.0000
	67AMM132	1.0000	0.0 N	20.0000	30.0000	30.0000	50.0000	0.0 N	20.0000	50.0000	50.0000
	66APA88	3.0000	0.0 N	20.0000	100.0000	50.0000	70.0000	5.0000	15.0000	50.0000	30.0000
	66APA89	1.5000	0.0 N	10.0000	100.0000	30.0000	30.0000	0.0 N	10.0000	30.0000	20.0000
	66APA90	0.0 N	0.0 N	10.0000	150.0000	20.0000	50.0000	3.0000	15.0000	30.0000	10.0000
SB-5	66APA91	1.0000	0.0 N	20.0000	150.0000	15.0000	70.0000	0.0 N	15.0000	30.0000	15.0000
	66APA92	0.0 N	0.0 N	10.0000	150.0000	15.0000	70.0000	3.0000	20.0000	20.0000	0.0 N
SB-6	66APA93	0.0 N	0.0 N	15.0000	100.0000	20.0000	30.0000	0.0 N	15.0000	30.0000	10.0000
	66APA94	0.0 N	0.0 N	10.0000	300.0000	15.0000	50.0000	0.0 N	15.0000	30.0000	10.0000
SC-2	65AMM245	0.0 N	0.0 N	20.0000	100.0000	150.0000	0.0 N	0.0 N	0.0 N	30.0000	0.0 N
	65AMM244	0.0 N	0.0 N	20.0000	150.0000	70.0000	0.0 N	0.0 N	0.0 N	30.0000	0.0 N
SC-3	65AMM243	0.0 N	0.0 N	20.0000	150.0000	50.0000	0.0 N	0.0 N	0.0 N	30.0000	0.0 N

TABLE 1. SED. SAMPLE ANALYSES

QUAD	SAMPLE	SB PPM		SC PPM	SN PPM		SR PPM	V PPM	W PPM		Y PPM	ZN PPM		ZR PPM
SB-4	67AMM201	0.0	N	15.0000	0.0	N	300.0000	150.0000	0.0	N	10.0000	0.0	N	150.0000
	67AMM200	0.0	N	20.0000	0.0	N	700.0000	200.0000	0.0	N	15.0000	0.0	N	150.0000
	67ADV118	0.0	N	10.0000	0.0	N	300.0000	70.0000	0.0	N	5.0000	0.0	N	200.0000
	66AMM73	0.0	N	20.0000	0.0	N	1000.0000	150.0000	0.0	N	20.0000	0.0	N	300.0000
	66AMM72	0.0	N	20.0000	0.0	N	700.0000	150.0000	0.0	N	20.0000	0.0	N	300.0000
	67AMM131	0.0	N	15.0000	0.0	N	150.0000	100.0000	0.0	N	20.0000	0.0	N	200.0000
	67AMM132	0.0	N	15.0000	0.0	N	300.0000	150.0000	0.0	N	10.0000	0.0	N	200.0000
	66APA88	0.0	N	20.0000	0.0	N	700.0000	100.0000	0.0	N	20.0000	0.0	N	200.0000
	66APA89	0.0	N	15.0000	0.0	N	500.0000	100.0000	0.0	N	20.0000	0.0	N	150.0000
	66APA90	0.0	N	20.0000	0.0	N	150.0000	100.0000	0.0	N	30.0000	0.0	N	300.0000
SB-5	66APA91	0.0	N	15.0000	0.0	N	200.0000	70.0000	0.0	N	30.0000	0.0	N	200.0000
	66APA92	0.0	N	20.0000	0.0	N	150.0000	100.0000	0.0	N	30.0000	0.0	N	300.0000
SB-6	66APA93	0.0	N	15.0000	0.0	N	200.0000	70.0000	0.0	N	30.0000	0.0	N	150.0000
	66APA94	0.0	N	15.0000	0.0	N	200.0000	100.0000	0.0	N	30.0000	0.0	N	200.0000
SC-2	65AMM245	0.0	N	20.0000	0.0	N	150.0000	150.0000	0.0	N	20.0000	0.0	N	70.0000
	65AMM244	0.0	N	20.0000	0.0	N	100.0000	150.0000	0.0	N	20.0000	0.0	N	70.0000
SC-3	65AMM243	0.0	N	30.0000	0.0	N	100.0000	200.0000	0.0	N	30.0000	0.0	N	100.0000

FREQUENCY TABLE FOR COLUMN 1 (FE PCT)

LIMITS LOWER - UPPER		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
3.8E-02 -	5.6E-02	0	0	0.0	0.0
5.6E-02 -	8.3E-02	0	0	0.0	0.0
8.3E-02 -	1.2E-01	0	0	0.0	0.0
1.2E-01 -	1.8E-01	0	0	0.0	0.0
1.8E-01 -	2.6E-01	0	0	0.0	0.0
2.6E-01 -	3.8E-01	0	0	0.0	0.0
3.8E-01 -	5.6E-01	0	0	0.0	0.0
5.6E-01 -	8.3E-01	4	4	1.50	1.50
8.3E-01 -	1.2E 00	6	10	2.25	3.75
1.2E 00 -	1.8E 00	16	26	5.99	9.74
1.8E 00 -	2.6E 00	26	52	9.74	19.48
2.6E 00 -	3.8E 00	51	103	19.10	38.58
3.8E 00 -	5.6E 00	44	147	16.48	55.06
5.6E 00 -	8.3E 00	103	250	38.58	93.63
8.3E 00 -	1.2E 01	12	262	4.49	98.13

EXPLANATION

7.0E-01 means $7.0 \times 10^{-1}_{0}$ or 0.7
7.0E 00 means $7.0 \times 10^{1}_{1}$ or 7.0
7.0E 01 means $7.0 \times 10^{2}_{2}$ or 70.0
7.0E 02 means 7.0×10^{3} or 700.0
7.0E 03 means 7.0 x 10^{3} or 7,000.0

HISTOGRAM FOR COLUMN 1 (FE PCT) **X = 1%**

```
      7.0E-01 X
      1.0E 00 XX
      1.5E 00 XXXXXX
      2.0E 00 XXXXXXXXXX
      3.0E 00 XXXXXXXXXXXXXXXXXXX
      5.0E 00 XXXXXXXXXXXXXXXX
      7.0E 00 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
      1.0E 01 XXXX
```

N	L	H	B	T	G	ANALYTICAL VALUES
0	0	0	0	0	5	262
0.0	0.0			0.0	1.87	

MAXIMUM = 1.00000E 01

MINIMUM = 7.00000E-01

GEOMETRIC MEAN = 4.23203E 00

GEOMETRIC DEVIATION = 1.85405E 00

FREQUENCY TABLE FOR COLUMN 2 (MG PCT)

LIMITS LOWER - UPPER		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
1.8E-02 -	2.6E-02	0	0	0.0	0.0
2.6E-02 -	3.8E-02	0	0	0.0	0.0
3.8E-02 -	5.6E-02	0	0	0.0	0.0
5.6E-02 -	8.3E-02	0	0	0.0	0.0
8.3E-02 -	1.2E-01	1	1	0.37	0.37
1.2E-01 -	1.8E-01	0	1	0.0	0.37
1.8E-01 -	2.6E-01	4	5	1.50	1.87
2.6E-01 -	3.8E-01	19	24	7.12	8.99
3.8E-01 -	5.6E-01	17	41	6.37	15.36
5.6E-01 -	8.3E-01	76	117	28.46	43.82
8.3E-01 -	1.2E 00	39	156	14.61	58.43
1.2E 00 -	1.8E 00	70	226	26.22	84.64
1.8E 00 -	2.6E 00	22	248	8.24	92.88
2.6E 00 -	3.8E 00	13	261	4.87	97.75
3.8E 00 -	5.6E 00	5	266	1.87	99.63
5.6E 00 -	8.3E 00	0	266	0.0	99.63
8.3E 00 -	1.2E 01	0	266	0.0	99.63
1.2E 01 -	1.8E 01	1	267	0.37	100.00

HISTOGRAM FOR COLUMN 2 (MG PCT) **X = 1%**

```
      2.0E-01 X

      3.0E-01 XXXXXXX

      5.0E-01 XXXXXX

      7.0E-01 XXXXXXXXXXXXXXXXXXXXXXXXXXX

      1.0E 00 XXXXXXXXXXXXXXX

      1.5E 00 XXXXXXXXXXXXXXXXXXXXXXXXXXX

      2.0E 00 XXXXXXXX

      3.0E 00 XXXXX

      5.0E 00 XX

      7.0E 00

      1.0E 01

      1.5E 01
```

N	L	H	R	T	G	ANALYTICAL VALUES
0	0	0	0	0	0	267
0.0	0.0			0.0	0.0	

MAXIMUM = 1.50000E 01

MINIMUM = 1.00000E-01

GEOMETRIC MEAN = 9.93141E-01 GEOMETRIC DEVIATION 1.95243E 00

EXPLANATION

7.0E-01 means 7.0 x 10_0^{-1} or 0.7
7.0E 00 means 7.0 x 10_1^{1} or 7.0
7.0E 01 means 7.0 x 10_2^{2} or 70.0
7.0E 02 means 7.0 x 10^{3} or 700.0
7.0E 03 means 7.0 x 10^{3} or 7,000.0

FREQUENCY TABLE FOR COLUMN 3 (CA PCT)

LIMITS LOWER - UPPER		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
3.8E-02 -	5.6E-02	0	0	0.0	0.0
5.6E-02 -	8.3E-02	0	0	0.0	0.0
8.3E-02 -	1.2E-01	1	1	0.37	0.37
1.2E-01 -	1.8E-01	1	2	0.37	0.75
1.8E-01 -	2.6E-01	1	3	0.37	1.12
2.6E-01 -	3.8E-01	2	5	0.75	1.87
3.8E-01 -	5.6E-01	2	7	0.75	2.62
5.6E-01 -	8.3E-01	17	24	6.37	8.99
8.3E-01 -	1.2E 00	42	66	15.73	24.72
1.2E 00 -	1.8E 00	82	148	30.71	55.43
1.8E 00 -	2.6E 00	41	189	15.36	70.79
2.6E 00 -	3.8E 00	27	216	10.11	80.90
3.8E 00 -	5.6E 00	27	243	10.11	91.01
5.6E 00 -	8.3E 00	24	267	8.99	100.00

HISTOGRAM FOR COLUMN 3 (CA PCT) **X = 1%**

```
3.0E-01 X
5.0E-01 X
7.0E-01 XXXXXX
1.0E 00 XXXXXXXXXXXXXXX
1.5E 00 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
2.0E 00 XXXXXXXXXXXXXXX
3.0E 00 XXXXXXXXXX
5.0E 00 XXXXXXXXXX
7.0E 00 XXXXXXXXX
```

N	L	H	B	T	G	ANALYTICAL VALUES
0	0	0	0	0	0	267
0.0	0.0			0.0	0.0	

MAXIMUM = 7.00000E 00

MINIMUM = 1.00000E-01

GEOMETRIC MEAN = 1.86086E 00

GEOMETRIC DEVIATION = 2.07166E 00

EXPLANATION

7.0E-01 means 7.0 x 10^{-1} or 0.7
7.0E 00 means 7.0 x 10^{0} or 7.0
7.0E 01 means 7.0 x 10^{1} or 70.0
7.0E 02 means 7.0 x 10^{2} or 700.0
7.0E 03 means 7.0 x 10^{3} or 7,000.0

FREQUENCY TABLE FOR COLUMN 4 (TI PCT)

LIMITS LOWER - UPPER		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
8.3E-04 -	1.2E-03	0	0	0.0	0.0
1.2E-03 -	1.8E-03	0	0	0.0	0.0
1.8E-03 -	2.6E-03	0	0	0.0	0.0
2.6E-03 -	3.8E-03	0	0	0.0	0.0
3.8E-03 -	5.6E-03	0	0	0.0	0.0
5.6E-03 -	8.3E-03	0	0	0.0	0.0
8.3E-03 -	1.2E-02	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	3	3	1.12	1.12
8.3E-02 -	1.2E-01	9	12	3.37	4.49
1.2E-01 -	1.8E-01	49	61	18.35	22.85
1.8E-01 -	2.6E-01	21	82	7.87	30.71
2.6E-01 -	3.8E-01	42	124	15.73	46.44
3.8E-01 -	5.6E-01	67	191	25.09	71.54
5.6E-01 -	8.3E-01	57	248	21.35	92.88
8.3E-01 -	1.2E 00	16	264	5.99	98.88
1.2E 00 -	1.8E 00	3	267	1.12	100.00

HISTOGRAM FOR COLUMN 4 (TI PCT) **X = 1%**

```
      7.0E-02 X
      1.0E-01 XXX
      1.5E-01 XXXXXXXXXXXXXXXXXX
      2.0E-01 XXXXXXXX
      3.0E-01 XXXXXXXXXXXXXXXX
      5.0E-01 XXXXXXXXXXXXXXXXXXXXXXXXXX
      7.0E-01 XXXXXXXXXXXXXXXXXXXXX
      1.0E 00 XXXXXX
      1.5E 00 X
```

N	L	H	R	T	G	ANALYTICAL VALUES
0	0	0	0	0	0	267
0.0	0.0			0.0	0.0	

MAXIMUM = 1.50000E 00

MINIMUM = 7.00000E-02

GEOMETRIC MEAN = 3.61628E-01

GEOMETRIC DEVIATION = 1.98075E 00

EXPLANATION

7.0E-01 means 7.0 x 10_0^{-1} or 0.7
7.0E 00 means 7.0 x 10_0^{1} or 7.0
7.0E 01 means 7.0 x 10_2^{1} or 70.0
7.0E 02 means 7.0 x 10_3^{2} or 700.0
7.0E 03 means 7.0 x 10^{3} or 7,000.0

FREQUENCY TABLE FOR COLUMN 5 (MN PPM)

LIMITS LOWER - UPPER		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
8.3E 00 -	1.2E 01	0	0	0.0	0.0
1.2E 01 -	1.8E 01	1	1	0.37	0.37
1.8E 01 -	2.6E 01	1	2	0.37	0.75
2.6E 01 -	3.8E 01	0	2	0.0	0.75
3.8E 01 -	5.6E 01	0	2	0.0	0.75
5.6E 01 -	8.3E 01	0	2	0.0	0.75
8.3E 01 -	1.2E 02	3	5	1.12	1.87
1.2E 02 -	1.8E 02	6	11	2.25	4.12
1.8E 02 -	2.6E 02	11	22	4.12	8.24
2.6E 02 -	3.8E 02	35	57	13.11	21.35
3.8E 02 -	5.6E 02	37	94	13.86	35.21
5.6E 02 -	8.3E 02	70	164	26.22	61.42
8.3E 02 -	1.2E 03	49	213	18.35	79.78
1.2E 03 -	1.8E 03	48	261	17.98	97.75
1.8E 03 -	2.6E 03	3	264	1.12	98.88
2.6E 03 -	3.8E 03	2	266	0.75	99.63

HISTOGRAM FOR COLUMN 5 (MN PPM) **X = 1%**

```
1.0E 02 X
1.5E 02 XX
2.0E 02 XXXX
3.0E 02 XXXXXXXXXXXX
5.0E 02 XXXXXXXXXXXXX
7.0E 02 XXXXXXXXXXXXXXXXXXXXXXXXX
1.0E 03 XXXXXXXXXXXXXXXXX
1.5E 03 XXXXXXXXXXXXXXXXX
2.0E 03 X
3.0E 03 X
```

N	L	H	B	T	G	ANALYTICAL VALUES
1	0	0	0	0	0	**266**
0.37	0.0			0.0	0.0	

MAXIMUM = 3.00000E 03

MINIMUM = 1.50000E 01

GEOMETRIC MEAN = 6.53493E 02

GEOMETRIC DEVIATION = 2.07088E 00

EXPLANATION

7.0E-01 means 7.0×10^{-1} or 0.7
7.0E 00 means 7.0×10^{0} or 7.0
7.0E 01 means 7.0×10^{1} or 70.0
7.0E 02 means 7.0×10^{2} or 700.0
7.0E 03 means 7.0×10^{3} or 7,000.0

FREQUENCY TABLE FOR COLUMN 6 (AG PPM)

LIMITS LOWER	- UPPER	FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
3.8E-01 -	5.6E-01	1	1	0.37	0.37
5.6E-01 -	8.3E-01	2	3	0.75	1.12
8.3E-01 -	1.2E 00	0	3	0.0	1.12
1.2E 00 -	1.8E 00	2	5	0.75	1.87
1.8E 00 -	2.6E 00	1	6	0.37	2.25
2.6E 00 -	3.8E 00	1	7	0.37	2.62

EXPLANATION

7.0E-01 means 7.0×10^{-1} or 0.7
7.0E 00 means 7.0×10^{0} or 7.0
7.0E 01 means 7.0×10^{1} or 70.0
7.0E 02 means 7.0×10^{2} or 700.0
7.0E 03 means 7.0×10^{3} or 7,000.0

HISTOGRAM FOR COLUMN 6 (AG PPM) X = 1%

7.0E-01 X

1.0E 00

1.5E 00 X

2.0E 00

3.0E 00

Several different laboratories were involved in the analyses of these samples and the lower limit of detection of some elements varied between laboratories. The lower limit of detection of silver varied from 0.5 ppm to 1.0 ppm. Therefore, the number of N, L,0.5, and 0.7 values is not accurate. However, it is thought that the percentages given for these values are an approximation. It can also be seen that only 1.6% of the samples contain 1.0 ppm or more silver.

N	L	H	B	T	G	ANALYTICAL VALUES
252	8	0	0	0	0	7
94.38	3.00			0.0	0.0	

MAXIMUM = 3.00000E 00

MINIMUM = 5.00000E-01

GEOMETRIC MEAN = 1.18635E 00

GEOMETRIC DEVIATION = 1.91841E 00

FREQUENCY TABLE FOR COLUMN 9 (B PPM)

LIMITS LOWER - UPPER		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
8.3E 00 -	1.2E 01	22	22	8.24	8.24
1.2E 01 -	1.8E 01	19	41	7.12	15.36
1.8E 01 -	2.6E 01	33	74	12.36	27.72
2.6E 01 -	3.8E 01	40	114	14.98	42.70
3.8E 01 -	5.6E 01	21	135	7.87	50.56
5.6E 01 -	8.3E 01	20	155	7.49	58.05
8.3E 01 -	1.2E 02	12	167	4.49	62.55
1.2E 02 -	1.8E 02	1	168	0.37	62.92
1.8E 02 -	2.6E 02	2	170	0.75	63.67
2.6E 02 -	3.8E 02	1	171	0.37	64.04

HISTOGRAM FOR COLUMN 9 (B PPM) X = 1%

```
1.0E 01 XXXXXXXX

1.5E 01 XXXXXXX

2.0E 01 XXXXXXXXXXXX

3.0E 01 XXXXXXXXXXXXXXX

5.0E 01 XXXXXXXX

7.0E 01 XXXXXXX

1.0E 02 XXXX

1.5E 02

2.0E 02 X

3.0E 02
```

N	L	H	B	T	G	ANALYTICAL VALUES
80	16	0	0	0	0	171
29.96	5.99			0.0	0.0	

MAXIMUM = 3.00000E 02

MINIMUM = 1.00000E 01

GEOMETRIC MEAN = 2.98433E 01

GEOMETRIC DEVIATION = 2.09863E 00

EXPLANATION

7.0E-01 means $7.0 \times 10_0^{-1}$ or 0.7
7.0E 00 means $7.0 \times 10_0^{1}$ or 7.0
7.0E 01 means $7.0 \times 10_2^{1}$ or 70.0
7.0E 02 means $7.0 \times 10_3^{2}$ or 700.0
7.0E 03 means 7.0×10^{3} or 7,000.0

Several different laberateries were involved in the analyses of these samples and the lower limit of detection of some elements varied between laberateries. The lower limit of detection of boren was 10 ppm for about half the samples and 20 ppm for the other half. Therefore, that part of the histogram from 10 to 15 ppm and the number of N and L values are not accurate. The total number of samples with 15 ppm or less is 52%.

FREQUENCY TABLE FOR COLUMN 10 (BA PPM)

LIMITS LOWER - UPPER		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
3.8E 00 -	5.6E 00	0	0	0.0	0.0
5.6E 00 -	8.3E 00	0	0	0.0	0.0
8.3E 00 -	1.2E 01	0	0	0.0	0.0
1.2E 01 -	1.8E 01	0	0	0.0	0.0
1.8E 01 -	2.6E 01	0	0	0.0	0.0
2.6E 01 -	3.8E 01	0	0	0.0	0.0
3.8E 01 -	5.6E 01	1	1	0.37	0.37
5.6E 01 -	8.3E 01	1	2	0.37	0.75
8.3E 01 -	1.2E 02	1	3	0.37	1.12
1.2E 02 -	1.8E 02	1	4	0.37	1.50
1.8E 02 -	2.6E 02	0	4	0.0	1.50
2.6E 02 -	3.8E 02	6	10	2.25	3.75
3.8E 02 -	5.6E 02	6	16	2.25	5.99
5.6E 02 -	8.3E 02	27	43	10.11	16.10
8.3E 02 -	1.2E 03	82	125	30.71	46.82
1.2E 03 -	1.8E 03	79	204	29.59	76.40
1.8E 03 -	2.6E 03	45	249	16.85	93.26
2.6E 03 -	3.8E 03	16	265	5.99	99.25
3.8E 03 -	5.6E 03	0	265	0.0	99.25
5.6E 03 -	8.3E 03	2	267	0.75	100.00

HISTOGRAM FOR COLUMN 10 (BA PPM) **X = 1%**

```
      3.0E 02 XX
      5.0E 02 XX
      7.0E 02 XXXXXXXXXX
      1.0E 03 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
      1.5E 03 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
      2.0E 03 XXXXXXXXXXXXXXXXX
      3.0E 03 XXXXXX
      5.0E 03
      7.0E 03 X
```

N	L	H	B	T	G	ANALYTICAL VALUES
0	0	0	0	0	0	267
0.0	0.0			0.0	0.0	

MAXIMUM = 7.00000E 03

MINIMUM = 5.00000E 01

GEOMETRIC MEAN = 1.22326E 03

GEOMETRIC DEVIATION = 1.79347E 00

EXPLANATION

7.0E-01 means 7.0 x 10^{-1}_{0} or 0.7
7.0E 00 means 7.0 x 10^{0}_{1} or 7.0
7.0E 01 means 7.0 x 10^{1}_{2} or 70.0
7.0E 02 means 7.0 x 10^{2}_{3} or 700.0
7.0E 03 means 7.0 x 10^{3} or 7,000.0

FREQUENCY TABLE FOR COLUMN 11 (BE PPM)

LIMITS LOWER	- UPPER	FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
8.3E-01 -	1.2E 00	61	61	22.85	22.85
1.2E 00 -	1.8E 00	78	139	29.21	52.06
1.8E 00 -	2.6E 00	35	174	13.11	65.17
2.6E 00 -	3.8E 00	25	199	9.36	74.53
3.8E 00 -	5.6E 00	3	202	1.12	75.66
5.6E 00 -	8.3E 00	1	203	0.37	76.03
8.3E 00 -	1.2E 01	0	203	0.0	76.03
1.2E 01 -	1.8E 01	1	204	0.37	76.40

EXPLANATION

7.0E-01 means 7.0 x 10^{-1} or 0.7
7.0E 00 means 7.0 x 10^{0} or 7.0
7.0E 01 means 7.0 x 10^{1} or 70.0
7.0E 02 means 7.0 x 10^{2} or 700.0
7.0E 03 means 7.0 x 10^{3} or 7,000.0

HISTOGRAM FOR COLUMN 11 (BE PPM) **X = 1%**

```
      1.0E 00 XXXXXXXXXXXXXXXXXXXXXX

      1.5E 00 XXXXXXXXXXXXXXXXXXXXXXXXXXXXX

      2.0E 00 XXXXXXXXXXXXX

      3.0E 00 XXXXXXXXX

      5.0E 00 X

      7.0E 00

      1.0E 01

      1.5E 01
```

N	L	H	B	T	G	ANALYTICAL VALUES
63	0	0	0	0	0	204
23.60	0.0			0.0	0.0	

MAXIMUM = 1.50000E 01

MINIMUM = 1.00000E 00

GEOMETRIC MEAN = 1.57627E 00

GEOMETRIC DEVIATION = 1.52775E 00

FREQUENCY TABLE FOR COLUMN 12 (BI PPM)

LIMITS LOWER - UPPER		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
8.3E 00 -	1.2E 01	0	0	0.0	0.0
1.2E 01 -	1.8E 01	3	3	1.12	1.12
1.8E 01 -	2.6E 01	0	3	0.0	1.12
2.6E 01 -	3.8E 01	1	4	0.37	1.50

EXPLANATION

7.0E-01 means $7.0 \times 10_0^{-1}$ or 0.7
7.0E 00 means $7.0 \times 10_1^{0}$ or 7.0
7.0E 01 means $7.0 \times 10_2^{1}$ or 70.0
7.0E 02 means $7.0 \times 10_3^{2}$ or 700.0
7.0E 03 means 7.0×10^{3} or 7,000.0

HISTOGRAM FOR COLUMN 12 (BI PPM) **X = 1%**

1.5E 01 X

2.0E 01

3.0E 01

N	L	H	B	T	G	ANALYTICAL VALUES
263	0	0	0	0	0	4
98.50	0.0			0.0	0.0	

MAXIMUM = 3.00000E 01

MINIMUM = 1.50000E 01

GEOMETRIC MEAN = 1.78380E 01

GEOMETRIC DEVIATION = 1.41422E 00

FREQUENCY TABLE FOR COLUMN 13 (CO PPM)

LIMITS LOWER	- UPPER	FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
2.6E 00 -	3.8E 00	1	1	0.37	0.37
3.8E 00 -	5.6E 00	3	4	1.12	1.50
5.6E 00 -	8.3E 00	4	8	1.50	3.00
8.3E 00 -	1.2E 01	28	36	10.49	13.48
1.2E 01 -	1.8E 01	58	94	21.72	35.21
1.8E 01 -	2.6E 01	45	139	16.85	52.06
2.6E 01 -	3.8E 01	37	176	13.86	65.92
3.8E 01 -	5.6E 01	8	184	3.00	68.91
5.6E 01 -	8.3E 01	2	186	0.75	69.66

HISTOGRAM FOR COLUMN 13 (CO PPM) **X = 1%**

```
      5.0E 00 X
      7.0E 00 X
      1.0E 01 XXXXXXXXXX
      1.5E 01 XXXXXXXXXXXXXXXXXXXXX
      2.0E 01 XXXXXXXXXXXXXXXXX
      3.0E 01 XXXXXXXXXXXXXX
      5.0E 01 XXX
      7.0E 01 X
```

N	L	H	B	T	G	ANALYTICAL VALUES
81	0	0	0	0	0	186
30.34	0.0			0.0	0.0	

MAXIMUM = 7.00000E 01

MINIMUM = 3.00000E 00

GEOMETRIC MEAN = 1.78154E 01

GEOMETRIC DEVIATION = 1.64175E 00

EXPLANATION

7.0E-01 means 7.0 x 10_0^{-1} or 0.7
7.0E 00 means 7.0 x 10_1^{0} or 7.0
7.0E 01 means 7.0 x 10_2^{1} or 70.0
7.0E 02 means 7.0 x 10_3^{2} or 700.0
7.0E 03 means 7.0 x 10^{3} or 7,000.0

FREQUENCY TABLE FOR COLUMN 14 (CR PPM)

LIMITS LOWER - UPPER		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
3.8E 00 -	5.6E 00	0	0	0.0	0.0
5.6E 00 -	8.3E 00	0	0	0.0	0.0
8.3E 00 -	1.2E 01	12	12	4.49	4.49
1.2E 01 -	1.8E 01	8	20	3.00	7.49
1.8E 01 -	2.6E 01	14	34	5.24	12.73
2.6E 01 -	3.8E 01	30	64	11.24	23.97
3.8E 01 -	5.6E 01	26	90	9.74	33.71
5.6E 01 -	8.3E 01	57	147	21.35	55.06
8.3E 01 -	1.2E 02	26	173	9.74	64.79
1.2E 02 -	1.8E 02	49	222	18.35	83.15
1.8E 02 -	2.6E 02	19	241	7.12	90.26
2.6E 02 -	3.8E 02	6	247	2.25	92.51
3.8E 02 -	5.6E 02	4	251	1.50	94.01
5.6E 02 -	8.3E 02	1	252	0.37	94.38

HISTOGRAM FOR COLUMN 14 (CR PPM) **X = 1%**

```
1.0E 01 XXXX
1.5E 01 XXX
2.0E 01 XXXXX
3.0E 01 XXXXXXXXXXX
5.0E 01 XXXXXXXXXX
7.0E 01 XXXXXXXXXXXXXXXXXXXXX
1.0E 02 XXXXXXXXXX
1.5E 02 XXXXXXXXXXXXXXXXX
2.0E 02 XXXXXXX
3.0E 02 XX
5.0E 02 X
7.0E 02
```

N	L	H	B	T	G	ANALYTICAL VALUES
15	0	0	0	0	0	252
5.62	0.0			0.0	0.0	

MAXIMUM = 7.00000E 02

MINIMUM = 1.00000E 01

GEOMETRIC MEAN = 6.94619E 01

GEOMETRIC DEVIATION = 2.42640E 00

EXPLANATION

7.0E-01 means 7.0 x 10^{-1} or 0.7
7.0E 00 means 7.0 x 10^{0} or 7.0
7.0E 01 means 7.0 x 10^{1} or 70.0
7.0E 02 means 7.0 x 10^{2} or 700.0
7.0E 03 means 7.0 x 10^{3} or 7,000.0

FREQUENCY TABLE FOR COLUMN 15 (CU PPM)

LIMITS LOWER	- UPPER	FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
3.8E 00 -	5.6E 00	1	1	0.37	0.37
5.6E 00 -	8.3E 00	3	4	1.12	1.50
8.3E 00 -	1.2E 01	15	19	5.62	7.12
1.2E 01 -	1.8E 01	19	38	7.12	14.23
1.8E 01 -	2.6E 01	48	86	17.98	32.21
2.6E 01 -	3.8E 01	70	156	26.22	58.43
3.8E 01 -	5.6E 01	49	205	18.35	76.78
5.6E 01 -	8.3E 01	28	233	10.49	87.27
8.3E 01 -	1.2E 02	17	250	6.37	93.63
1.2E 02 -	1.8E 02	13	263	4.87	98.50
1.8E 02 -	2.6E 02	3	266	1.12	99.63
2.6E 02 -	3.8E 02	1	267	0.37	100.00

HISTOGRAM FOR COLUMN 15 (CU PPM) **X = 1%**

```
      7.0E 00 X
      1.0E 01 XXXXXX
      1.5E 01 XXXXXXX
      2.0E 01 XXXXXXXXXXXXXXXXXX
      3.0E 01 XXXXXXXXXXXXXXXXXXXXXXXXXX
      5.0E 01 XXXXXXXXXXXXXXXXXX
      7.0E 01 XXXXXXXXXX
      1.0E 02 XXXXXX
      1.5E 02 XXXXX
      2.0E 02 X
      3.0E 02
```

N	L	H	B	T	G	ANALYTICAL VALUES
0	0	0	0	0	0	267
0.0	0.0			0.0	0.0	

MAXIMUM = 3.00000E 02

MINIMUM = 5.00000E 00

GEOMETRIC MEAN = 3.52215E 01

GEOMETRIC DEVIATION = 2.09370E 00

EXPLANATION

7.0E-01 means 7.0 x 10_0^{-1} or 0.7
7.0E 00 means 7.0 x 10_1^{0} or 7.0
7.0E 01 means 7.0 x 10_2^{1} or 70.0
7.0E 02 means 7.0 x 10_3^{2} or 700.0
7.0E 03 means 7.0 x 10^{3} or 7,000.0

FREQUENCY TABLE FOR COLUMN 16 (LA PPM)

LIMITS LOWER - UPPER		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
1.8E 01 -	2.6E 01	14	14	5.24	5.24
2.6E 01 -	3.8E 01	44	58	16.48	21.72
3.8E 01 -	5.6E 01	43	101	16.10	37.83
5.6E 01 -	8.3E 01	50	151	18.73	56.55
8.3E 01 -	1.2E 02	33	184	12.36	68.91
1.2E 02 -	1.8E 02	38	222	14.23	83.15
1.8E 02 -	2.6E 02	14	236	5.24	88.39
2.6E 02 -	3.8E 02	7	243	2.62	91.01
3.8E 02 -	5.6E 02	0	243	0.0	91.01
5.6E 02 -	8.3E 02	1	244	0.37	91.39

EXPLANATION

7.0E-01 means 7.0 x 10_0^{-1} or 0.7
7.0E 00 means 7.0 x 10_1 or 7.0
7.0E 01 means 7.0 x 10_2 or 70.0
7.0E 02 means 7.0 x 10_3 or 700.0
7.0E 03 means 7.0 x 10^3 or 7,000,0

HISTOGRAM FOR COLUMN 16 (LA PPM) **X = 1%**

```
      2.0E 01 XXXXX

      3.0E 01 XXXXXXXXXXXXXXXX

      5.0E 01 XXXXXXXXXXXXXXXX

      7.0E 01 XXXXXXXXXXXXXXXXXXXX

      1.0E 02 XXXXXXXXXXXX

      1.5E 02 XXXXXXXXXXXXXX

      2.0E 02 XXXXX

      3.0E 02 XXX

      5.0E 02

      7.0E 02
```

N	L	H	B	T	G	ANALYTICAL VALUES
23	0	0	0	0	0	244
8.61	0.0			0.0	0.0	

MAXIMUM = 7.00000E 02

MINIMUM = 2.00000E 01

GEOMETRIC MEAN = 6.95993E 01

GEOMETRIC DEVIATION = 2.02203E 00

FREQUENCY TABLE FOR COLUMN 17 (MO PPM)

LIMITS LOWER - UPPER		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
2.6E 00 -	3.8E 00	17	17	6.37	6.37
3.8E 00 -	5.6E 00	19	36	7.12	13.48
5.6E 00 -	8.3E 00	12	48	4.49	17.98
8.3E 00 -	1.2E 01	4	52	1.50	19.48

HISTOGRAM FOR COLUMN 17 (MO PPM) **X = 1%**

```
3.0E 00 XXXXXX

5.0E 00 XXXXXXX

7.0E 00 XXXX

1.0E 01 X
```

N	L	H	B	T	G	ANALYTICAL VALUES
215	0	0	0	0	0	52
80.52	0.0			0.0	0.0	

MAXIMUM = 1.00000E 01

MINIMUM = 3.00000E 00

GEOMETRIC MEAN = 4.82298E 00

GEOMETRIC DEVIATION = 1.47299E 00

EXPLANATION

7.0E-01 means 7.0 x 10^{-1} or 0.7
7.0E 00 means 7.0 x 10^{0} or 7.0
7.0E 01 means 7.0 x 10^{1} or 70.0
7.0E 02 means 7.0 x 10^{2} or 700.0
7.0E 03 means 7.0 x 10^{3} or 7,000.0

Several different laboratories were involved in the analyses of these samples and the lower limit of detection of some elements varied between laboratories. The lower limit of detection of molybdenum was 5.0 ppm for about half the samples and 3.0 ppm for the other half. Therefore, the percentage of 3.0 ppm values is not accurate. The total number of samples with less than 5.0 ppm is about 87%.

FREQUENCY TABLE FOR COLUMN 18 (NB PPM)

LIMITS LOWER - UPPER		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
8.3E 00 -	1.2E 01	41	41	16.14	16.14
1.2E 01 -	1.8E 01	32	73	12.60	28.74
1.8E 01 -	2.6E 01	20	93	7.87	36.61
2.6E 01 -	3.8E 01	17	110	6.69	43.31
3.8E 01 -	5.6E 01	3	113	1.18	44.49

HISTOGRAM FOR COLUMN 18 (NB PPM) **X = 1%**

```
1.0E 01 XXXXXXXXXXXXXXXX

1.5E 01 XXXXXXXXXXXXX

2.0E 01 XXXXXXXX

3.0E 01 XXXXXXX

5.0E 01 X
```

N	L	H	B	T	G	ANALYTICAL VALUES
141	0	0	13	0	0	113
55.51	0.0			0.0	0.0	

MAXIMUM = 5.00000E 01

MINIMUM = 1.00000E 01

GEOMETRIC MEAN = 1.56125E 01

GEOMETRIC DEVIATION = 1.53770E 00

EXPLANATION

7.0E-01 means 7.0 x 10^{-1}_{0} or 0.7
7.0E 00 means 7.0 x 10^{1}_{0} or 7.0
7.0E 01 means 7.0 x 10^{2}_{0} or 70.0
7.0E 02 means 7.0 x 10^{3}_{0} or 700.0
7.0E 03 means 7.0 x 10^{3} or 7,000.0

FREQUENCY TABLE FOR COLUMN 19 (NI PPM)

LIMITS LOWER - UPPER		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
1.8E 00 -	2.6E 00	6	6	2.25	2.25
2.6E 00 -	3.8E 00	3	9	1.12	3.37
3.8E 00 -	5.6E 00	10	19	3.75	7.12
5.6E 00 -	8.3E 00	10	29	3.75	10.86
8.3E 00 -	1.2E 01	16	45	5.99	16.85
1.2E 01 -	1.8E 01	35	80	13.11	29.96
1.8E 01 -	2.6E 01	30	110	11.24	41.20
2.6E 01 -	3.8E 01	54	164	20.22	61.42
3.8E 01 -	5.6E 01	48	212	17.98	79.40
5.6E 01 -	8.3E 01	31	243	11.61	91.01
8.3E 01 -	1.2E 02	8	251	3.00	94.01
1.2E 02 -	1.8E 02	5	256	1.87	95.88
1.8E 02 -	2.6E 02	1	257	0.37	96.25

EXPLANATION

7.0E-01 means 7.0 x 10^{-1} or 0.7
7.0E 00 means 7.0 x 10^{0} or 7.0
7.0E 01 means 7.0 x 10^{1} or 70.0
7.0E 02 means 7.0 x 10^{2} or 700.0
7.0E 03 means 7.0 x 10^{3} or 7,000.0

HISTOGRAM FOR COLUMN 19 (NI PPM) **X = 1%**

```
2.0E 00 XX
3.0E 00 X
5.0E 00 XXXX
7.0E 00 XXXX
1.0E 01 XXXXXX
1.5E 01 XXXXXXXXXXXXX
2.0E 01 XXXXXXXXXXX
3.0E 01 XXXXXXXXXXXXXXXXXXXX
5.0E 01 XXXXXXXXXXXXXXXXX
7.0E 01 XXXXXXXXXXXX
1.0E 02 XXX
1.5E 02 XX
2.0E 02
```

N	L	H	B	T	G	ANALYTICAL VALUES
10	0	0	0	0	0	257
3.75	0.0			0.0	0.0	

MAXIMUM = 2.00000E 02

MINIMUM = 2.00000E 00

GEOMETRIC MEAN = 2.57468E 01

GEOMETRIC DEVIATION = 2.48048E 00

FREQUENCY TABLE FOR COLUMN 20 (PB PPM)

LIMITS LOWER	- UPPER	FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
8.3E 00 -	1.2E 01	5	5	1.87	1.87
1.2E 01 -	1.8E 01	16	21	5.99	7.87
1.8E 01 -	2.6E 01	46	67	17.23	25.09
2.6E 01 -	3.8E 01	68	135	25.47	50.56
3.8E 01 -	5.6E 01	60	195	22.47	73.03
5.6E 01 -	8.3E 01	37	232	13.86	86.89
8.3E 01 -	1.2E 02	8	240	3.00	89.89
1.2E 02 -	1.8E 02	5	245	1.87	91.76
1.8E 02 -	2.6E 02	0	245	0.0	91.76
2.6E 02 -	3.8E 02	0	245	0.0	91.76
3.8E 02 -	5.6E 02	0	245	0.0	91.76
5.6E 02 -	8.3E 02	0	245	0.0	91.76
8.3E 02 -	1.2E 03	0	245	0.0	91.76
1.2E 03 -	1.8E 03	0	245	0.0	91.76
1.8E 03 -	2.6E 03	1	246	0.37	92.13

EXPLANATION

7.0E-01 means 7.0×10^{-1} or 0.7
7.0E 00 means 7.0×10^{0} or 7.0
7.0E 01 means 7.0×10^{1} or 70.0
7.0E 02 means 7.0×10^{2} or 700.0
7.0E 03 means 7.0×10^{3} or 7,000.0

HISTOGRAM FOR COLUMN 20 (PB PPM) **X = 1%**

```
      1.0E 01 XX
      1.5E 01 XXXXXX
      2.0E 01 XXXXXXXXXXXXXXXXX
      3.0E 01 XXXXXXXXXXXXXXXXXXXXXXXXX
      5.0E 01 XXXXXXXXXXXXXXXXXXXXXX
      7.0E 01 XXXXXXXXXXXXXX
      1.0E 02 XXX
      1.5E 02 XX
      2.0E 02
      3.0E 02
      5.0E 02
      7.0E 02
      1.0E 03
      1.5E 03
      2.0E 03
```

N	L	H	B	T	G	ANALYTICAL VALUES
21	0	0	0	0	0	246
7.87	0.0			0.0	0.0	

MAXIMUM = 2.00000E 03 **GEOMETRIC MEAN = 3.65557E 01**

MINIMUM = 1.00000E 01 **GEOMETRIC DEVIATION = 1.87129E 00**

FREQUENCY TABLE FOR COLUMN 22 (SC PPM)

LIMITS LOWER	- UPPER	FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
3.8E 00 -	5.6E 00	15	15	8.62	8.62
5.6E 00 -	8.3E 00	30	45	17.24	25.86
8.3E 00 -	1.2E 01	18	63	10.34	36.21
1.2E 01 -	1.8E 01	25	88	14.37	50.57
1.8E 01 -	2.6E 01	25	113	14.37	64.94
2.6E 01 -	3.8E 01	12	125	6.90	71.84
3.8E 01 -	5.6E 01	2	127	1.15	72.99

EXPLANATION

7.0E-01 means 7.0 x 10^{-1} or 0.7
7.0E 00 means 7.0 x 10^{0} or 7.0
7.0E 01 means 7.0 x 10^{1} or 70.0
7.0E 02 means 7.0 x 10^{2} or 700.0
7.0E 03 means 7.0 x 10^{3} or 7,000.0

HISTOGRAM FOR COLUMN 22 (SC PPM) **X = 1%**

```
       5.0E 00 XXXXXXXXX
       7.0E 00 XXXXXXXXXXXXXXXXX
       1.0E 01 XXXXXXXXXX
       1.5E 01 XXXXXXXXXXXXXX
       2.0E 01 XXXXXXXXXXXXXX
       3.0E 01 XXXXXXX
       5.0E 01 X
```

N	L	H	B	T	G	ANALYTICAL VALUES
47	0	0	93	0	0	127
27.01	0.0			0.0	0.0	

MAXIMUM = 5.00000E 01

MINIMUM = 5.00000E 00

GEOMETRIC MEAN = 1.19635E 01

GEOMETRIC DEVIATION = 1.79025E 00

FREQUENCY TABLE FOR COLUMN 23 (SN PPM)

LIMITS LOWER - UPPER		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
8.3E 00 -	1.2E 01	2	2	0.75	0.75
1.2E 01 -	1.8E 01	0	2	0.0	0.75
1.8E 01 -	2.6E 01	2	4	0.75	1.50
2.6E 01 -	3.8E 01	2	6	0.75	2.25

EXPLANATION

7.0E-01 means 7.0×10^{-1} or 0.7
7.0E 00 means 7.0×10^{0} or 7.0
7.0E 01 means 7.0×10^{1} or 70.0
7.0E 02 means 7.0×10^{2} or 700.0
7.0E 03 means 7.0×10^{3} or 7,000.0

HISTOGRAM FOR COLUMN 23 (SN PPM) **X = 1%**

```
      1.0E 01 X

      1.5E 01

      2.0E 01 X

      3.0E 01 X
```

N	L	H	B	T	G	ANALYTICAL VALUES
261	0	0	0	0	0	6
97.75	0.0			0.0	0.0	

MAXIMUM = 3.00000E 01

MINIMUM = 1.00000E 01

GEOMETRIC MEAN = 1.81712E 01

GEOMETRIC DEVIATION = 1.64361E 00

FREQUENCY TABLE FOR COLUMN 24 (SR PPM)

LIMITS LOWER - UPPER		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
8.3E 01 -	1.2E 02	10	10	3.75	3.75
1.2E 02 -	1.8E 02	13	23	4.87	8.61
1.8E 02 -	2.6E 02	9	32	3.37	11.99
2.6E 02 -	3.8E 02	29	61	10.86	22.85
3.8E 02 -	5.6E 02	45	106	16.85	39.70
5.6E 02 -	8.3E 02	82	188	30.71	70.41
8.3E 02 -	1.2E 03	51	239	19.10	89.51
1.2E 03 -	1.8E 03	19	258	7.12	96.63
1.8E 03 -	2.6E 03	6	264	2.25	98.88

EXPLANATION

7.0E-01 means $7.0 \times 10_0^{-1}$ or 0.7
7.0E 00 means $7.0 \times 10_1^{0}$ or 7.0
7.0E 01 means $7.0 \times 10_2^{1}$ or 70.0
7.0E 02 means $7.0 \times 10_3^{2}$ or 700.0
7.0E 03 means 7.0×10^{3} or 7,000.0

HISTOGRAM FOR COLUMN 24 (SR PPM) **X = 1%**

```
      1.0E 02 XXXX
      1.5E 02 XXXXX
      2.0E 02 XXX
      3.0E 02 XXXXXXXXXXX
      5.0E 02 XXXXXXXXXXXXXXXXX
      7.0E 02 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
      1.0E 03 XXXXXXXXXXXXXXXXXX
      1.5E 03 XXXXXXX
      2.0E 03 XX
```

N	L	H	B	T	G	ANALYTICAL VALUES
3	0	0	0	0	0	264
1.12	0.0			0.0	0.0	

MAXIMUM = 2.00000E 03

MINIMUM = 1.00000E 02

GEOMETRIC MEAN = 5.75842E 02

GEOMETRIC DEVIATION = 1.98314E 00

FREQUENCY TABLE FOR COLUMN 25 (V PPM)

LIMITS LOWER - UPPER		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
8.3E 00 -	1.2E 01	0	0	0.0	0.0
1.2E 01 -	1.8E 01	4	4	1.50	1.50
1.8E 01 -	2.6E 01	3	7	1.12	2.62
2.6E 01 -	3.8E 01	17	24	6.37	8.99
3.8E 01 -	5.6E 01	27	51	10.11	19.10
5.6E 01 -	8.3E 01	49	100	18.35	37.45
8.3E 01 -	1.2E 02	46	146	17.23	54.68
1.2E 02 -	1.8E 02	94	240	35.21	89.89
1.8E 02 -	2.6E 02	22	262	8.24	98.13
2.6E 02 -	3.8E 02	4	266	1.50	99.63

EXPLANATION

7.0E-01 means 7.0 x 10^{-1} or 0.7
7.0E 00 means 7.0 x 10^{0} or 7.0
7.0E 01 means 7.0 x 10^{1} or 70.0
7.0E 02 means 7.0 x 10^{2} or 700.0
7.0E 03 means 7.0 x 10^{3} or 7,000.0

HISTOGRAM FOR COLUMN 25 (V PPM) **X = 1%**

```
      1.5E 01 X

      2.0E 01 X

      3.0E 01 XXXXXX

      5.0E 01 XXXXXXXXXX

      7.0E 01 XXXXXXXXXXXXXXXXXX

      1.0E 02 XXXXXXXXXXXXXXXXX

      1.5E 02 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

      2.0E 02 XXXXXXXX

      3.0E 02 X
```

N	L	H	B	T	G	ANALYTICAL VALUES
1	0	0	0	0	0	266
0.37	0.0			0.0	0.0	

MAXIMUM = 3.00000E 02

MINIMUM = 1.50000E 01

GEOMETRIC MEAN = 9.58240E 01

GEOMETRIC DEVIATION = 1.82893E 00

FREQUENCY TABLE FOR COLUMN 27 (Y PPM)

LIMITS LOWER - UPPER		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
3.8E 00 -	5.6E 00	19	19	7.12	7.12
5.6E 00 -	8.3E 00	21	40	7.87	14.98
8.3E 00 -	1.2E 01	34	74	12.73	27.72
1.2E 01 -	1.8E 01	40	114	14.98	42.70
1.8E 01 -	2.6E 01	33	147	12.36	55.06
2.6E 01 -	3.8E 01	64	211	23.97	79.03
3.8E 01 -	5.6E 01	25	236	9.36	88.39
5.6E 01 -	8.3E 01	7	243	2.62	91.01

EXPLANATION

7.0E-01 means 7.0 x 10_0^{-1} or 0.7
7.0E 00 means 7.0 x 10_0^{1} or 7.0
7.0E 01 means 7.0 x 10_2^{1} or 70.0
7.0E 02 means 7.0 x 10_3^{2} or 700.0
7.0E 03 means 7.0 x 10^{3} or 7,000.0

HISTOGRAM FOR COLUMN 27 (Y PPM) **X = 1%**

```
5.0E 00 XXXXXXX

7.0E 00 XXXXXXXX

1.0E 01 XXXXXXXXXXXXX

1.5E 01 XXXXXXXXXXXXXXX

2.0E 01 XXXXXXXXXXXX

3.0E 01 XXXXXXXXXXXXXXXXXXXXXXXX

5.0E 01 XXXXXXXXX

7.0E 01 XXX
```

N	L	H	B	T	G	ANALYTICAL VALUES
24	0	0	0	0	0	243
8.99	0.0			0.0	0.0	

MAXIMUM = 7.00000E 01

MINIMUM = 5.00000E 00

GEOMETRIC MEAN = 1.79817E 01

GEOMETRIC DEVIATION = 2.01678E 00

FREQUENCY TABLE FOR COLUMN 28 (ZN PPM)

LIMITS LOWER - UPPER		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
1.8E 02 -	2.6E 02	0	0	0.0	0.0
2.6E 02 -	3.8E 02	1	1	0.37	0.37
3.8E 02 -	5.6E 02	0	1	0.0	0.37
5.6E 02 -	8.3E 02	1	2	0.37	0.75

HISTOGRAM FOR COLUMN 28 (ZN PPM) **X = 1%**

N	L	H	B	T	G	ANALYTICAL VALUES
265	0	0	0	0	0	2
99.25	0.0			0.0	0.0	

MAXIMUM = 7.00000E 02

MINIMUM = 3.00000E 02

GEOMETRIC MEAN = 4.58256E 02

GEOMETRIC DEVIATION = 1.82053E 00

EXPLANATION

7.0E-01 means 7.0 x 10_0^{-1} or 0.7
7.0E 00 means 7.0 x 10_1^{0} or 7.0
7.0E 01 means 7.0 x 10_2^{1} or 70.0
7.0E 02 means 7.0 x 10_3^{2} or 700.0
7.0E 03 means 7.0 x 10^{3} or 7,000.0

FREQUENCY TABLE FOR COLUMN 29 (ZR PPM)

LIMITS LOWER	- UPPER	FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
8.3E 00 -	1.2E 01	0	0	0.0	0.0
1.2E 01 -	1.8E 01	0	0	0.0	0.0
1.8E 01 -	2.6E 01	3	3	1.12	1.12
2.6E 01 -	3.8E 01	7	10	2.62	3.75
3.8E 01 -	5.6E 01	12	22	4.49	8.24
5.6E 01 -	8.3E 01	25	47	9.36	17.60
8.3E 01 -	1.2E 02	28	75	10.49	28.09
1.2E 02 -	1.8E 02	59	134	22.10	50.19
1.8E 02 -	2.6E 02	47	181	17.60	67.79
2.6E 02 -	3.8E 02	44	225	16.48	84.27
3.8E 02 -	5.6E 02	10	235	3.75	88.01
5.6E 02 -	8.3E 02	14	249	5.24	93.26
8.3E 02 -	1.2E 03	6	255	2.25	95.51
1.2E 03 -	1.8E 03	9	264	3.37	98.88
1.8E 03 -	2.6E 03	1	265	0.37	99.25
2.6E 03 -	3.8E 03	0	265	0.0	99.25
3.8E 03 -	5.6E 03	1	266	0.37	99.63

HISTOGRAM FOR COLUMN 29 (ZR PPM) **X = 1%**

```
2.0E 01 X
3.0E 01 XXX
5.0E 01 XXXX
7.0E 01 XXXXXXXXX
1.0E 02 XXXXXXXXXX
1.5E 02 XXXXXXXXXXXXXXXXXXXXX
2.0E 02 XXXXXXXXXXXXXXXXX
3.0E 02 XXXXXXXXXXXXXXX
5.0E 02 XXXX
7.0E 02 XXXXX
1.0E 03 XX
1.5E 03 XXX
2.0E 03
3.0E 03
5.0E 03
```

N	L	H	B	T	G	ANALYTICAL VALUES
1	0	0	0	0	0	266
0.37	0.0			0.0	0.0	

MAXIMUM = 5.00000E 03 MINIMUM = 2.00000E 01 GEOMETRIC MEAN = 1.84384E 02 GEOMETRIC DEVIATION = 2.45555E 00

EXPLANATION

7.0E-01 means 7.0×10^{-1} or 0.7
7.0E 00 means 7.0×10^{0} or 7.0
7.0E 01 means 7.0×10^{1} or 70.0
7.0E 02 means 7.0×10^{2} or 700.0
7.0E 03 means 7.0×10^{3} or 7,000.0

A470 STATISTICAL SUMMARY DATE 3/27/69

ELEMENT	N	L	H	R	T	G	ANALYTICAL VALUES
FE PCT	0	0	0	0	0	5	262
MG PCT	0	0	0	0	0	0	267
CA PCT	0	0	0	0	0	0	267
TI PCT	0	0	0	0	0	0	267
MN PPM	1	0	0	0	0	0	266
AG PPM	252	8	0	0	0	0	7
AS PPM	267	0	0	0	0	0	0
AU PPM	245	0	0	9	0	0	13
B PPM	80	16	0	0	0	0	171
BA PPM	0	0	0	0	0	0	267
BE PPM	63	0	0	0	0	0	204
BI PPM	263	0	0	0	0	0	4
CO PPM	81	0	0	0	0	0	186
CR PPM	15	0	0	0	0	0	252
CU PPM	0	0	0	0	0	0	267
LA PPM	23	0	0	0	0	0	244
MO PPM	215	0	0	0	0	0	52
NB PPM	141	0	0	13	0	0	113
NI PPM	10	0	0	0	0	0	257
PB PPM	21	0	0	0	0	0	246
SB PPM	267	0	0	0	0	0	0
SC PPM	47	0	0	93	0	0	127
SN PPM	261	0	0	0	0	0	6
SR PPM	3	0	0	0	0	0	264
V PPM	1	0	0	0	0	0	266
W PPM	267	0	0	0	0	0	0
Y PPM	24	0	0	0	0	0	243
ZN PPM	265	0	0	0	0	0	2
ZR PPM	1	0	0	0	0	0	266

ELEMENT	GEOMETRIC MEAN	GEOMETRIC DEVIATION	REMARKS
FE PCT	********	******	5 GREATER THAN VALUES. NO COMPUTATIONS.
MG PCT	0.993141	1.95	267 SAMPLES AND 267 ANALYTICAL VALUES.
CA PCT	1.860855	2.07	267 SAMPLES AND 267 ANALYTICAL VALUES.
TI PCT	0.361629	1.98	267 SAMPLES AND 267 ANALYTICAL VALUES.
MN PPM	642.509521	2.18	1 NOT DETECTED, LESS THAN, OR TRACE VALUES. 266 REPORTED VALUES.
AG PPM	********	******	260 NOT DETECTED, LESS THAN, OR TRACE VALUES. 7 REPORTED VALUES. NO COMPUTATIONS.
AS PPM	********	******	267 NOT DETECTED, LESS THAN, OR TRACE VALUES. 0 REPORTED VALUES. NO COMPUTATIONS.
AU PPM	********	******	245 NOT DETECTED, LESS THAN, OR TRACE VALUES. 13 REPORTED VALUES. NO COMPUTATIONS.
B PPM	14.017299	3.43	96 NOT DETECTED, LESS THAN, OR TRACE VALUES. 171 REPORTED VALUES.
BA PPM	1223.260254	1.79	267 SAMPLES AND 267 ANALYTICAL VALUES.
BE PPM	1.249454	1.78	63 NOT DETECTED, LESS THAN, OR TRACE VALUES. 204 REPORTED VALUES.
BI PPM	********	******	263 NOT DETECTED, LESS THAN, OR TRACE VALUES. 4 REPORTED VALUES. NO COMPUTATIONS.
CO PPM	7.909538	3.83	81 NOT DETECTED, LESS THAN, OR TRACE VALUES. 186 REPORTED VALUES.
CR PPM	57.760040	3.16	15 NOT DETECTED, LESS THAN, OR TRACE VALUES. 252 REPORTED VALUES.
CU PPM	35.221405	2.09	267 SAMPLES AND 267 ANALYTICAL VALUES.
LA PPM	59.922775	2.31	23 NOT DETECTED, LESS THAN, OR TRACE VALUES. 244 REPORTED VALUES.
MO PPM	1.081491	2.81	215 NOT DETECTED, LESS THAN, OR TRACE VALUES. 52 REPORTED VALUES.
NB PPM	7.516061	2.24	141 NOT DETECTED, LESS THAN, OR TRACE VALUES. 113 REPORTED VALUES.
NI PPM	22.989319	2.89	10 NOT DETECTED, LESS THAN, OR TRACE VALUES. 257 REPORTED VALUES.
PB PPM	31.721298	2.17	21 NOT DETECTED, LESS THAN, OR TRACE VALUES. 246 REPORTED VALUES.
SB PPM	********	******	267 NOT DETECTED, LESS THAN, OR TRACE VALUES. 0 REPORTED VALUES. NO COMPUTATIONS.
SC PPM	7.600996	2.52	47 NOT DETECTED, LESS THAN, OR TRACE VALUES. 127 REPORTED VALUES.
SN PPM	********	******	261 NOT DETECTED, LESS THAN, OR TRACE VALUES. 6 REPORTED VALUES. NO COMPUTATIONS.

SR	PPM	562.003174	2.05	3	NOT DETECTED, LESS THAN, OR TRACE VALUES.	264	REPORTED VALUES.
V	PPM	94.892426	1.86	1	NOT DETECTED, LESS THAN, OR TRACE VALUES.	266	REPORTED VALUES.
W	PPM	********	******	267	NOT DETECTED, LESS THAN, OR TRACE VALUES.	0	REPORTED VALUES. NO COMPUTATIONS.
Y	PPM	15.133652	2.39	24	NOT DETECTED, LESS THAN, OR TRACE VALUES.	243	REPORTED VALUES.
ZN	PPM	********	******	265	NOT DETECTED, LESS THAN, OR TRACE VALUES.	2	REPORTED VALUES. NO COMPUTATIONS.
ZR	PPM	182.076996	2.51	1	NOT DETECTED, LESS THAN, OR TRACE VALUES.	266	REPORTED VALUES.