ANALYSES OF ROCKS AND STREAM SEDIMENTS FROM THE HUNTER-FRYINGPAN WILDERNESS AREA AND THE PORPHYRY MOUNTAIN WILDERNESS STUDY AREA, PITKIN COUNTY, COLORADO

By

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This report is preliminary and has not been reviewed for conformity with Geological Survey standards and nomenclature.

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INTRODUCTION

The geochemical investigation of the Hunter-Fryingpan Wilderness Area and the Porphyry Mountain Wilderness study area consisted of the collection and analysis of 434 samples. These include 166 rocks and stream sediments from 50 localities which yielded 90 fine-sediment samples, 89 magnetic heavy-mineral samples, and 89 non-magnetic heavy-mineral samples. The sample localities and analytical results are listed in this report.

The analytical data were entered into a computer storage system (RASS II) by S. K. McDanal and C. M. McDougal.

Geochemical sampling was carried out by field parties of the U.S. Geological Survey which included Steve Ludington, R. A. Yeoman, Bert Coxe, G. N. Green, and W. A. Rudolph.

Emission spectrographic analyses were made by Elwin Mosier. X-ray fluorescence analyses were made by R. A. Yeoman.

Sample Preparation

Rock samples were crushed and pulverized to -140 mesh (0.105 mm) in a grinder with ceramic plates. Samples for X-ray fluorescence analysis were further pulverized to ca. 300 mesh (~50 μm) in a ball mill.

At each stream-sediment site, approximately 1 liter of material, screened to -18 mesh (<1.0 mm) was collected from active stream sediment. In the laboratory, this material was dried and sieved to -200 mesh (<.074 mm). This material made up the fine fraction. The coarser material was then processed with a Wilfley[1] table to obtain a concentrate made up largely of minerals with a specific gravity of >2.8. The less dense material was discarded. These heavy minerals were then further separated with a hand magnet, and the fractions were analyzed.

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[1]Use of brand names is for descriptive purposes only and does not constitute endorsement by the U.S. Geological Survey

Analytical Procedures

Each sample was analyzed semiquantitatively for 31 elements by a six-step D. C. arc optical emission spectrographic method (Grimes and Marranzino, 1968).

The semiquantitative spectrographic values are reported as six steps per order of magnitude (steps 1, 0.7, 0.5, 0.3, 0.2, 0.15) and are approximate geometric midpoints of the concentration ranges. The precision of this method has been shown to be one reporting interval 83% of the time and 2 reporting intervals 96% of the time (Motooka and Grimes, 1976). When an element is present in concentrations below, but near the detection limit, it is reported in the tables with an "L" after the value of the detection limit. Similarly, the suffix "G" denotes a value greater than the maximum limit of determination. An "N" signifies the element was not detected.

X-ray fluorescence analyses were done on pressed pellets of the material using a lithium-drifted silicon detector and a multichannel analyzer. Excitation was by the radioisotope, Cd^{109}. Standards were a mixture of synthetically prepared and well-analyzed natural materials (Rb and Sr). Precision is a function of concentration, but is generally better than 5% of the amount present, except at very low values. Accuracy is also on the order of 5% of the amount present, owing largely to uncertainty about the composition of the standards used.

REFERENCES CITED

Grimes, D. J., and Marranzino, A. P., 1968, Direct-current arc and alternating-current spark emission spectrographic field methods for the semiquantitative spectrographic analyses: U.S. Geological Survey Circular 591, 6 p.

Motooka, J. M., and Grimes, D. J., 1976, Analytical precision of one-sixth order semiquantitative spectrographic analyses: U.S. Geological Survey Circular 738, 25 p.

VanTrump, George, Jr., and Miesch, A. T., 1977, The U.S. Geological Survey RASS-STATPAC System for management and statistical reduction of Geochemical Data: Computers and Geosciences, v. 3, no. 3, p. 475-488.

Table 1.--Emission spectrographic data for rocks

In addition to the values reported in this table, all rocks were analyzed for Ag, As, Au, Bi, Cd, Sb, W, Zn, and Th. These elements were not found, with the following exceptions:

1. 79HF250 (quartzite) contained 1 ppm Ag.
2. 79HF706 (bio. gneiss) contained 0.5 (L) ppm Ag.
3. 79HF220, 223, 329, 515b, 522, and 721 (granite) contained 100 (L) ppm Th.
4. 79HF228 (diorite) contained 200 ppm Zn.
5. 79HF237 (Tertiary hbl. qtz. diorite), 512 (Tertiary hbl. latite), 243, and 279 (bio. gneiss) contained 200 (L) ppm Zn.

Detection limits for these elements were:

Ag - 0.5 ppm	Sb - 100 ppm
As - 200 ppm	W - 50 ppm
Au - 10 ppm	Zn - 200 ppm
Bi - 10 ppm	Th - 100 ppm
Cd - 20 ppm	

Abbreviations in table 1:

alt. - altered

ppy. - porphyritic

Hbl. - hornblende

Bio. - biotite

Qtz. - quartz

Precambrian granitic rocks

Field No.	Rocktype	Lat.	Long.	Fe	Mg	Ca	Ti
79HF201	Granite(alt.)	39.195	-106.774	15.00	1.50	10.00	0.50
79HF203	Granite	39.189	-106.770	2.00	0.30	0.30	0.15
79HF209	Granite(ppy.)	39.262	-106.749	3.00	1.00	0.15	0.20
79HF210	Granite(ppy.)	39.261	-106.743	2.00	0.50	0.50	0.15
79HF212	Granite(ppy.)	39.245	-106.746	5.00	1.50	0.30	0.50
79HF214	Granite	39.248	-106.740	5.00	1.00	1.50	0.50
79HF218	Granite	39.144	-106.772	2.00	0.70	1.00	0.20
79HF220	Granite	39.124	-106.731	3.00	0.70	1.00	0.50
79HF222	Granite	39.121	-106.718	2.00	0.50	0.50	0.20
79HF223	Granite	39.121	-106.714	3.00	0.70	1.00	0.30
79HF224	Granite	39.119	-106.700	7.00	1.50	0.20	0.50
79HF225A	Granite	39.119	-106.690	3.00	0.70	0.70	0.20
79HF226	Granite	39.123	-106.674	2.00	0.50	0.50	0.30
79HF227	Granite	39.126	-106.662	2.00	0.50	1.00	0.20
79HF232	Granite	39.217	-106.759	2.00	0.30	0.70	0.20
79HF234	Granite(alt.)	39.218	-106.750	3.00	0.70	0.07	0.20
79HF236	Granite	39.184	-106.755	2.00	0.50	0.50	0.20
79HF241	Granite	39.338	-106.687	1.50	0.15	0.05	0.10
79HF244	Granite	39.328	-106.573	0.70	0.20	0.50	0.05
79HF247	Granite(ppy.)	39.241	-106.746	5.00	0.70	0.70	1.00
79HF260	Granite(ppy.)	39.217	-106.746	5.00	0.70	1.00	0.50
79HF262	Granite	39.205	-106.715	3.00	0.50	0.50	0.30
79HF263	Granite	39.201	-106.712	3.00	0.50	0.50	0.20
79HF265	Granite	39.197	-106.720	3.00	0.50	1.00	0.30
79HF270	Granite	39.138	-106.687	5.00	1.00	1.50	0.50
79HF272	Granite(alt.)	39.244	-106.734	2.00	0.50	0.20	0.10
79HF276	Granite(ppy.)	39.260	-106.713	3.00	1.50	0.50	0.50
79HF277	Granite(ppy.)	39.255	-106.724	3.00	0.70	1.00	0.20
79HF283	Pegmatite	39.310	-106.685	1.50	0.07	0.05	0.02
79HF285	Granite	39.304	-106.664	1.00	0.20	0.50	0.10
79HF288	Granite	39.165	-106.757	2.00	0.30	0.50	0.20
79HF291	Granite	39.143	-106.748	1.00	0.20	0.50	0.15
79HF292	Granite	39.146	-106.731	5.00	1.00	1.50	0.50
79HF293	Granite(ppy.)	39.128	-106.568	2.00	0.30	1.00	0.20
79HF299	Granite(ppy.)	39.144	-106.558	1.00	0.30	1.00	0.10
79HF305	Granite	39.134	-106.592	2.00	0.20	1.00	0.20
79HF309	Granite	39.156	-106.568	3.00	0.70	0.70	0.15
79HF310	Granite(Ppy.)	39.185	-106.744	3.00	0.50	0.50	0.20
79HF312	Granite(alt.)	39.184	-106.735	1.00	0.15	0.50	0.05
79HF314	Granite	39.192	-106.737	2.00	0.50	0.50	0.20
79HF316	Granite	39.185	-106.722	5.00	0.70	1.00	0.50
79HF320	Granite	39.209	-106.624	5.00	1.00	1.50	0.50
79HF321	Granite(ppy.)	39.207	-106.616	2.00	0.20	0.70	0.20
79HF322	Granite	39.243	-106.619	1.00	0.30	0.30	0.10
79HF323	Granite	39.264	-106.629	5.00	1.00	1.00	0.30
79HF324	Granite	39.226	-106.568	5.00	1.00	1.50	0.50
79HF325	Granite	39.243	-106.574	1.50	0.20	0.30	0.10
79HF328	Granite(ppy.)	39.265	-106.562	3.00	0.70	1.00	0.20
79HF329	Granite	39.282	-106.581	3.00	0.70	0.70	0.30
79HF330A	Granite	39.283	-106.705	7.00	2.00	3.00	0.50

Precambrian granitic rocks (cont.)

Field No.	Rocktype	Lat.	Long.	Fe	Mg	Ca	Ti
79HF333	Granite	39.287	-106.702	1.00	0.10	0.20	0.07
79HF334	Granite(alt.)	39.280	-106.689	1.50	0.05	0.05	0.01
79HF335	Granite(ppy.)	39.284	-106.674	5.00	1.50	0.20	0.50
79HF338	Granite	39.282	-106.668	1.50	0.50	0.30	0.20
79HF339	Granite	39.266	-106.699	1.50	0.30	0.50	0.15
79HF341	Granite	39.239	-106.700	2.00	0.10	0.50	0.10
79HF342	Granite	39.224	-106.663	2.00	0.50	0.50	0.20
79HF343	Granite	39.222	-106.688	1.50	0.30	0.30	0.10
79HF343A	Granite(alt.)	39.222	-106.688	5.00	0.70	1.00	0.20
79HF344	Granite	39.225	-106.706	2.00	0.50	0.50	0.15
79HF350	Granite	39.146	-106.667	7.00	1.50	2.00	1.00
79HF503A	Granite(ppy.)	39.296	-106.581	7.00	0.70	1.50	0.70
79HF503B	Aplite	39.296	-106.581	1.50	0.20	1.00	0.15
79HF506	Granite	39.249	-106.495	2.00	0.20	0.50	0.10
79HF507	Granite	39.246	-106.496	3.00	0.70	1.00	0.20
79HF508	Granite	39.264	-106.513	5.00	1.50	3.00	0.70
79HF510	Granite	39.118	-106.559	2.00	0.50	1.50	0.30
79HF511	Granite	39.132	-106.536	2.00	1.00	1.00	0.30
79HF513	Granite	39.150	-106.536	1.00	0.20	0.70	0.10
79HF514	Granite(ppy.)	39.231	-106.581	3.00	1.00	1.00	0.50
79HF515A	Granite(ppy.)	39.195	-106.577	3.00	1.00	1.00	0.30
79HF515B	Granite	39.195	-106.577	2.00	0.50	1.00	0.50
79HF516	Granite	39.138	-106.594	2.00	0.20	0.20	0.10
79HF522	Granite	39.163	-106.530	2.00	0.70	0.70	0.30
79HF524	Granite	39.238	-106.528	1.50	0.30	0.50	0.10
79HF525	Granite	39.158	-106.538	5.00	0.10	0.30	0.50
79HF527	Granite	39.174	-106.546	2.00	0.10	0.50	0.07
79HF711	Granite	39.111	-106.562	3.00	1.00	1.00	0.30
79HF712	Granite	39.112	-106.572	2.00	0.50	1.00	0.15
79HF713	Granite(ppy.)	39.122	-106.573	0.30	0.02	0.10	0.01
79HF715	Granite	39.113	-106.617	1.50	0.30	0.50	0.05
79HF717	Granite	39.123	-106.627	1.50	0.20	0.50	0.10
79HF718	Pegmatite	39.317	-106.660	1.00	0.05	0.10	0.01
79HF719	Granite	39.285	-106.614	5.00	1.00	1.50	0.70
79HF720	Granite	39.275	-106.610	0.50	0.05	1.00	0.05
79HF721	Granite(ppy.)	39.264	-106.599	7.00	1.00	1.00	0.30
79HF723	Granite	39.240	-106.593	5.00	1.00	1.00	0.50
79HF726	Granite(ppy.)	39.295	-106.591	3.00	1.00	1.50	0.20
79HF727	Granite(ppy.)	39.286	-106.586	5.00	1.00	1.00	0.50
79HF728	Granite(ppy.)	39.278	-106.568	3.00	0.50	0.70	0.20
79HF729	Granite(ppy.)	39.267	-106.552	2.00	0.50	0.70	0.15
79HF730	Granite(ppy.)	39.259	-106.539	5.00	1.00	1.00	0.50

Precambrian granitic rocks (cont.)

Field No.	Mn	B	Ba	Be	Co	Cr	Cu	La	Mo
79HF201	700	20	50	2.0	15	70	5	200	5n
79HF203	200	10l	500	1.5	5l	10	5	100	5n
79HF209	300	10l	700	1.0n	10	15	5	100	5n
79HF210	300	10l	700	2.0	5n	10	7	50	5n
79HF212	700	10	1000	1.5	7	30	10	50	5n
79HF214	1000	10l	1000	3.0	10	30	20	30	5n
79HF218	200	10l	2000	1.0	5l	20	5	50	5l
79HF220	500	10l	700	1.0l	10	20	30	100	5n
79HF222	200	10l	700	1.0l	5	15	10	150	5n
79HF223	300	10l	1000	1.0	5	30	20	200	5n
79HF224	1000	10l	3000	1.5	15	50	30	70	5n
79HF225A	200	10l	1000	1.0l	5	20	20	150	5n
79HF226	150	10l	200	1.0	7	50	5l	20	5n
79HF227	150	10l	1000	1.0n	5	10n	5l	100	5n
79HF232	150	10	700	1.5	5n	10l	5	20	5n
79HF234	100	10l	1000	2.0	7	50	5l	50	5n
79HF236	500	10l	1000	1.5	5	10	15	150	5n
79HF241	70	50	300	1.0n	5n	15	20	20	5n
79HF244	100	10l	1500	1.0l	5n	10n	5l	20n	5n
79HF247	500	10	1500	2.0	20	20	20	200	5n
79HF260	700	10	1500	3.0	10	15	5	50	5n
79HF262	300	10l	1000	1.0	5n	10	10	150	5l
79HF263	300	10l	700	1.0l	5l	10	10	100	5
79HF265	200	10l	1000	1.0	5	10	5	200	5l
79HF270	700	10l	2000	1.5	15	50	20	200	5n
79HF272	200	10l	100	2.0	5	20	10	70	5
79HF276	300	10l	300	1.5	10	20	5l	200	5n
79HF277	700	10	1500	2.0	10	20	10	50	5n
79HF283	200	10	20	7.0	5n	10l	7	20n	5n
79HF285	300	10l	200	5.0	5n	10n	5l	30	5n
79HF288	300	10n	700	1.5	5l	10l	5l	150	5n
79HF291	200	10l	300	1.5	5n	10n	5l	20	5n
79HF292	500	10l	700	2.0	20	50	15	200	5n
79HF293	200	10l	1000	1.0	5n	10l	15	300	5l
79HF299	100	10l	1500	1.0n	5n	10	5	20n	5n
79HF305	100	10n	700	1.0	5l	10	5	70	5n
79HF309	200	10l	1000	1.0n	15	15	15	100	5n
79HF310	200	10l	500	1.5	5	10	10	150	5n
79HF312	300	10l	1000	1.0	5n	10l	5	20	5n
79HF314	300	10l	700	1.5	5	10	10	100	5n
79HF316	300	10l	1500	1.0	7	10	15	150	5n
79HF320	300	10l	2000	2.0	10	15	50	70	5n
79HF321	150	10n	300	1.0l	5l	10	5	50	5n
79HF322	200	10l	700	1.0n	5n	10n	5	100	5n
79HF323	500	10l	1000	2.0	7	20	10	70	5l
79HF324	300	10l	1000	2.0	20	70	50	70	5l
79HF325	200	10n	200	3.0	5n	10l	5	50	5
79HF328	500	10l	700	2.0	7	50	30	200	5n
79HF329	300	10l	500	1.0l	7	15	10	150	5n
79HF330A	1000	10	1500	2.0	20	70	7	200	5n

Precambrian granitic rocks (cont.)

Field No.	Mn	B	Ba	Be	Co	Cr	Cu	La	Mo
79HF333	200	10l	100	7.0	5n	10l	5l	20n	5n
79HF334	200	10	20	1.0n	5n	10l	5	20n	5n
79HF335	500	10l	2000	1.0n	10	20	5l	200	5
79HF338	100	10	500	1.0	5n	10	5	100	5n
79HF339	100	10	700	1.5	5n	10	7	70	5
79HF341	500	10l	500	2.0	5n	10	5	20n	5n
79HF342	200	10l	700	1.0	5	10	15	100	5n
79HF343	300	10l	700	1.0l	5l	10	5	30	5n
79HF343A	1000	10l	1000	1.0	5	10	7	70	5n
79HF344	200	10l	1000	1.5	5	10	10	150	5n
79HF350	1000	10l	3000	1.0	15	50	20	200	5n
79HF503A	1000	10l	1000	2.0	5	50	7	50	5n
79HF503B	200	10l	1500	2.0	5n	10	10	20n	5n
79HF506	200	10l	700	1.0	5n	10	7	50	5n
79HF507	300	10l	700	1.0	5	15	20	70	5n
79HF508	500	10l	2000	1.0	10	50	30	200	5n
79HF510	200	10l	5000	1.5	5	10	10	150	5n
79HF511	200	10n	3000	1.0	7	10	10	70	5n
79HF513	100	10n	500	1.0l	5n	10l	5l	50	5n
79HF514	500	10l	1000	1.5	10	15	20	100	7
79HF515A	200	10l	1000	1.0	7	20	50	30	5n
79HF515B	150	10n	1000	1.0l	5l	15	10	200	5n
79HF516	200	10l	1500	1.0n	5	20	200	30	5l
79HF522	200	10l	1000	1.0n	7	10	20	200	5n
79HF524	200	10n	1000	1.5	5l	10	5	70	5n
79HF525	500	10	50	1.0	20	200	5	150	5n
79HF527	70	10l	1000	1.0n	5n	15	7	20	5n
79HF711	200	10l	5000	1.0	7	10	30	30	5n
79HF712	150	10n	2000	2.0	5	10l	10	150	5n
79HF713	20	10n	500	1.0n	5n	10n	5l	20n	5n
79HF715	200	10l	300	5.0	5	10	7	20n	5n
79HF717	100	10l	500	1.0	5n	10	5l	50	5n
79HF718	100	10l	50	1.0n	5n	15	7	20n	5n
79HF719	500	10l	1000	1.0	15	20	50	70	5n
79HF720	70	10n	300	1.5	5n	10l	5l	20n	5n
79HF721	700	10l	1000	2.0	20	30	30	100	5n
79HF723	500	10l	1500	1.0	10	15	100	100	5n
79HF726	300	10n	1000	2.0	10	15	15	100	5l
79HF727	500	10l	1000	2.0	15	20	20	100	10
79HF728	300	10l	2000	1.0l	5l	15	10	150	5n
79HF729	200	10l	700	1.0	5n	15	7	70	5n
79HF730	500	10l	500	1.5	10	20	10	100	5n

Precambrian granitic rocks (cont.)

Field No.	Nb	Ni	Pb	Sc	Sn	Sr	V	Y	Zr
79HF201	20	10	20	10	15	1500	150	50	500
79HF203	20l	5l	50	5l	10n	100	20	15	150
79HF209	20n	10	30	7	10n	100	50	20	70
79HF210	20n	7	30	7	10n	200	50	20	100
79HF212	20	10	20	15	10	150	70	50	300
79HF214	20n	10	20	15	10n	300	100	15	200
79HF218	20n	7	100	5	10n	500	50	10	100
79HF220	20	10	50	15	10n	200	50	500	300
79HF222	20n	5	70	7	10n	200	30	30	150
79HF223	20l	10	50	10	10n	200	70	50	200
79HF224	20l	20	20	10	10n	700	100	30	100
79HF225A	20n	7	70	10	10n	200	50	30	200
79HF226	20l	20	15	7	10n	100	50	20	200
79HF227	20n	5n	50	7	10n	200	50	20	200
79HF232	20n	5n	30	5l	10n	150	20	15	150
79HF234	20l	15	15	10	10n	150	50	20	200
79HF236	20l	5n	50	5l	10n	100	30	20	150
79HF241	20n	7	10l	5n	10n	100n	20	20	300
79HF244	20n	5n	100	5n	10n	300	10	10n	150
79HF247	20l	10	20	15	10n	200	100	50	200
79HF260	20l	10	20	10	10n	300	70	30	300
79HF262	20l	5n	50	5	10l	200	50	20	300
79HF263	20l	5n	50	7	10	200	50	30	150
79HF265	20l	5l	50	5	10n	200	50	20	500
79HF270	20l	15	30	15	10n	500	100	50	300
79HF272	20n	10	10n	5l	10n	200	15	10l	150
79HF276	20l	10	10l	20	10	100	70	50	300
79HF277	20n	10	30	10	10n	300	50	20	100
79HF283	70	5l	10n	5n	10n	100n	10n	10n	20
79HF285	20	5n	50	5	10l	100l	10l	20	70
79HF288	20	5n	30	5	10n	150	20	30	150
79HF291	20n	5n	70	5n	10n	100	15	10n	150
79HF292	20	20	30	15	10n	200	100	50	500
79HF293	20n	5n	50	10	10n	300	20	50	200
79HF299	20n	5	50	5n	10n	500	15	10n	100
79HF305	20n	5l	50	5	10n	200	50	15	100
79HF309	20n	10	70	5	10n	200	50	20	200
79HF310	20	5	50	5	10l	100	50	20	300
79HF312	20n	5n	10	5n	10n	500	10n	10	50
79HF314	20	5	50	5l	10l	150	50	20	200
79HF316	20	5	50	10	10	200	100	30	500
79HF320	20n	10	15	10	10n	500	100	15	200
79HF321	20n	5l	50	5l	10	150	50	10	70
79HF322	20n	5n	50	5l	10n	200	15	10	300
79HF323	20	10	30	7	10n	300	100	30	300
79HF324	20l	30	20	10	10n	300	100	50	200
79HF325	20l	5n	50	5n	10n	100l	15	15	100
79HF328	20n	10	30	7	10n	300	70	20	200
79HF329	20	5	50	7	10	150	50	50	200
79HF330A	20n	50	20	20	10n	1000	200	50	150

Precambrian granitic rocks (cont.)

Field No.	Nb	Ni	Pb	Sc	Sn	Sr	V	Y	Zr
79HF333	50	5n	15	5n	10n	100n	10l	10	50
79HF334	20n	5n	10n	5n	10n	100n	10n	10n	20
79HF335	20l	10	30	15	10n	150	100	70	300
79HF338	20l	5n	50	5l	10l	150	30	20	200
79HF339	20l	5n	50	5l	10n	150	50	10	200
79HF341	20n	5	20	5n	10n	150	10	15	70
79HF342	20l	5	50	5	15	150	50	15	200
79HF343	20l	5l	50	5l	10n	100	20	10	100
79HF343A	20n	5	20	5	10n	700	70	20	150
79HF344	20l	7	30	5	10n	300	50	20	150
79HF350	20l	15	30	20	10n	700	200	70	300
79HF503A	20	10	20	10	10n	200	100	50	300
79HF503B	20n	5	50	5n	10n	500	15	10n	100
79HF506	20n	5l	50	5n	10n	100	15	15	150
79HF507	20	5	70	7	10l	200	50	50	500
79HF508	20n	10	30	10	10n	1000	100	20	500
79HF510	20n	5	30	7	10n	500	50	20	500
79HF511	20n	7	30	10	10n	500	50	20	500
79HF513	20n	5n	50	5	10n	150	20	15	100
79HF514	20	10	30	10	10n	200	100	20	100
79HF515A	20l	7	50	10	10	300	100	20	200
79HF515B	20l	5n	100	5	10n	200	70	20	300
79HF516	20n	15	50	5n	10n	500	30	200	30
79HF522	20l	5l	50	5	10n	300	50	30	300
79HF524	20n	5l	20	5l	10n	300	30	15	100
79HF525	20l	70	10	15	10n	100	100	20	300
79HF527	20n	5l	70	5n	10n	200	30	10n	50
79HF711	20n	5	30	10	10n	500	70	20	500
79HF712	20n	5l	50	7	10n	500	30	15	200
79HF713	20n	5n	100	5n	10n	200	10n	10n	30
79HF715	20n	15	10	5l	10n	200	30	10	10
79HF717	20l	5n	50	5n	10n	100	20	30	100
79HF718	20n	5	50	5n	10n	100n	10n	10n	10
79HF719	20	15	30	15	15	200	100	30	150
79HF720	20n	5n	20	5n	10n	200	10l	10n	50
79HF721	20n	15	20	10	10n	300	100	15	500
79HF723	20n	5	30	5l	10n	500	70	20	500
79HF726	20l	7	20	10	10n	300	70	50	150
79HF727	20l	10	20	10	10n	200	100	30	300
79HF728	20n	7	50	5l	10n	300	50	20	300
79HF729	20n	5	50	5l	10n	200	30	10l	150
79HF730	20l	10	10	15	10n	200	70	30	300

Precambrian mafic intrusive rocks

Field No.	Rocktype	Lat.	Long.	Fe	Mg	Ca	Ti
79HF228	Diorite	39.122	-106.684	10.00	2.00	2.00	1.00
79HF228A	Diorite	39.122	-106.685	5.00	1.50	7.00	0.30
79HF281	Diorite	39.316	-106.674	10.00	5.00	5.00	0.30
79HF306B	Diorite	39.145	-106.583	5.00	3.00	2.00	0.30
79HF317	Granodiorite	39.180	-106.736	5.00	1.50	1.50	0.50
79HF318	Diorite	39.214	-106.619	10.00	3.00	10.00	1.00
79HF331	Metadiorite	39.283	-106.708	10.00	2.00	0.70	0.50
79HF722	Diorite	39.256	-106.596	10.00	2.00	5.00	1.00

Field No.	Nb	Ni	Pb	Sc	Sn	Sr	V	Y	Zr
79HF228	20n	70	20	15	10n	500	300	30	150
79HF228A	20n	50	30	7	10n	1500	100	30	200
79HF281	20n	150	10	30	10n	200	200	20	50
79HF306B	20n	100	15	20	10n	2000	150	50	200
79HF317	20l	50	15	15	10n	150	100	70	200
79HF318	20n	100	20	50	10n	1000	500	50	50
79HF331	20n	70	10n	50	10n	100	300	30	50
79HF722	20n	50	15	15	10n	1000	200	30	700

Field No.	Mn	B	Ba	Be	Co	Cr	Cu	La	Mo
79HF228	1500	10l	1500	1.0l	20	300	100	200	5n
79HF228A	500	10l	2000	2.0	20	100	100	100	15
79HF281	1000	10	300	1.0l	50	1000	50	20n	5n
79HF306B	700	10l	5000	2.0	30	500	5l	100	7
79HF317	1000	10l	700	1.0	20	70	7	30	5n
79HF318	1500	10l	3000	1.0	70	200	50	30	5n
79HF331	1500	10l	30	1.0n	50	200	100	20n	7
79HF722	1000	10l	2000	1.0	20	150	10	150	5n

Precambrian metamorphic rocks

Field No.	Rocktype	Lat.	Long.	Fe	Mg	Ca	Ti
79HF208	Hbl. Gneiss	39.268	-106.754	10.00	3.00	3.00	0.50
79HF221	Bio. Gneiss	39.121	-106.719	3.00	0.70	0.20	0.20
79HF225B	Migmatite	39.119	-106.690	5.00	1.00	0.70	0.50
79HF243	Bio. Schist	39.327	-106.676	10.00	1.50	0.10	0.50
79HF261	Bio. Gneiss	39.206	-106.715	5.00	1.00	0.70	0.70
79HF267	Migmatite	39.128	-106.681	3.00	0.50	0.50	0.30
79HF279	Bio. Gneiss	39.317	-106.675	5.00	1.50	0.50	0.70
79HF282	Bio. Gneiss	39.312	-106.686	5.00	0.70	1.00	0.30
79HF284	Bio. Gneiss	39.300	-106.683	7.00	1.00	0.30	0.30
79HF294	Bio. Gneiss	39.130	-106.562	3.00	0.70	1.00	0.20
79HF298	Bio. Schist	39.135	-106.563	5.00	0.70	0.50	0.30
79HF300	Bio. Gneiss	39.124	-106.583	5.00	1.00	0.70	0.30
79HF306A	Bio. Gneiss	39.145	-106.583	3.00	0.70	0.50	0.30
79HF308	Migmatite	39.155	-106.575	5.00	1.50	0.30	0.50
79HF332	Bio. Gneiss	39.302	-106.720	7.00	1.50	0.20	0.50
79HF337	Migmatite	39.253	-106.669	5.00	1.50	0.10	0.50
79HF346	Bio. Gneiss	39.142	-106.657	7.00	1.00	0.30	0.50
79HF349	Bio. Gneiss	39.142	-106.646	3.00	0.50	0.50	0.20
79HF504	Bio. Gneiss	39.321	-106.608	2.00	1.00	0.30	0.20
79HF519A	Bio. Gneiss	39.117	-106.589	5.00	1.00	0.07	0.50
79HF520	Bio. Gneiss	39.166	-106.541	5.00	1.00	0.20	0.50
79HF523	Migmatite	39.209	-106.507	5.00	1.00	0.30	0.20
79HF526	Migmatite	39.163	-106.547	3.00	0.70	1.00	0.30
79HF706	Bio. Gneiss	39.079	-106.529	5.00	1.00	1.00	0.30
79HF707	Bio. Gneiss	39.088	-106.540	10.00	2.00	3.00	1.00
79HF708	Bio. Gneiss	39.101	-106.542	5.00	0.30	1.50	0.15
79HF709	Bio. Gneiss	39.116	-106.540	10.00	1.50	0.50	0.50
79HF710	Bio. Gneiss	39.108	-106.548	5.00	1.00	1.50	0.50
79HF714	Bio. Gneiss	39.124	-106.579	5.00	1.00	0.50	0.20
79HF716	Bio. Gneiss	39.118	-106.620	5.00	1.00	0.10	0.30
79HF724	Bio. Gneiss	39.327	-106.664	5.00	1.50	0.30	0.30
79HF725	Bio. Gneiss	39.127	-106.651	5.00	1.00	0.30	0.50

Precambrian metamorphic rocks (cont.)

Field No.	Mn	B	Ba	Be	Co	Cr	Cu	La	Mo
79HF208	1000	10	3000	1.0	30	500	50	200	5n
79HF221	200	10l	700	1.0	10	70	7	30	5n
79HF225B	500	10l	500	1.0l	20	150	5	50	5n
79HF243	700	10	700	1.0l	20	200	20	50	5
79HF261	300	10l	500	1.0	100	20	7	50	5n
79HF267	500	10l	700	1.0	5	20	5l	20n	5n
79HF279	1000	10l	700	1.0	20	200	150	30	5n
79HF282	300	10l	500	1.5	15	70	30	20	5
79HF284	500	10l	700	1.0	15	100	20	50	5n
79HF294	200	10l	300	1.0	10	50	5	30	5n
79HF298	300	10l	200	1.0l	10	70	5	70	5n
79HF300	300	10l	500	1.0	15	70	5	30	5n
79HF306A	300	10l	700	1.0	10	100	7	30	5n
79HF308	300	10l	700	1.5	15	100	5	100	5n
79HF332	500	20	700	1.0	20	300	20	20n	5n
79HF337	200	200	700	2.0	20	150	10	50	5n
79HF346	500	10l	700	1.0n	20	100	5l	30	5n
79HF349	200	10l	700	1.0n	7	50	5	50	10
79HF504	500	10l	1500	1.0n	5	10	30	150	5n
79HF519A	300	10	300	1.0n	20	100	5	50	5n
79HF520	500	10l	700	2.0	20	150	7	50	5n
79HF523	200	10l	500	1.0n	10	50	5	20n	5n
79HF526	300	10l	200	1.0	10	70	7	50	5n
79HF706	500	10l	500	2.0	15	30	500	50	5l
79HF707	1500	20	700	1.0	50	70	50	20n	10
79HF708	300	10l	150	2.0	7	50	5	20n	5n
79HF709	700	10	1000	1.0n	20	150	10	70	5
79HF710	1000	10l	1000	1.0	15	30	20	30	5n
79HF714	1000	10l	700	1.0n	15	70	5l	50	5n
79HF716	300	10l	1000	1.0n	15	100	5l	70	5n
79HF724	300	50	700	1.0n	20	100	5l	50	5n
79HF725	500	10l	500	2.0	20	150	10	20	5n

Precambrian metamorphic rocks (cont.)

Field No.	Nb	Ni	Pb	Sc	Sn	Sr	V	Y	Zr
79HF208	20n	150	20	20	10n	1500	150	50	200
79HF221	20n	20	10	10	10n	100	70	30	300
79HF225B	20l	50	30	20	15	100	100	15	200
79HF243	20l	70	10	30	10n	100l	200	30	150
79HF261	20l	30	20	10	10n	100	150	20	500
79HF267	20l	7	30	10	10n	100	30	10	150
79HF279	20l	50	20	15	10n	150	100	15	100
79HF282	20n	50	20	10	10n	300	70	30	200
79HF284	20n	30	15	15	10n	100	100	30	150
79HF294	20l	15	20	7	10n	200	50	20	200
79HF298	20	20	20	15	10l	100l	70	300	300
79HF300	20l	20	20	10	10n	200	70	30	200
79HF306A	20l	30	30	15	10n	200	70	50	200
79HF308	20n	30	15	15	10n	100	100	20	150
79HF332	20l	70	15	15	10n	100	100	50	200
79HF337	20l	50	20	20	10n	100l	100	20	150
79HF346	20	30	20	15	15	100	100	50	200
79HF349	20l	15	50	10	10n	200	50	50	300
79HF504	20n	7	70	20	10n	100n	20	50	500
79HF519A	20	50	10	15	10n	100n	100	30	200
79HF520	20l	30	15	20	10n	150	100	50	200
79HF523	20l	20	10	5	10n	100	50	15	100
79HF526	20l	15	15	10	10n	100	50	20	200
79HF706	20l	20	15	15	10n	150	100	30	200
79HF707	20l	30	20	50	10n	300	300	50	300
79HF708	20n	10	20	5	10n	200	100	10n	100
79HF709	20l	50	20	20	10n	100	200	50	300
79HF710	20l	15	15	20	10n	200	100	20	200
79HF714	20l	20	20	7	10n	150	70	30	150
79HF716	20l	20	50	15	10n	200	100	20	200
79HF724	20n	30	10	10	10n	150	100	20	100
79HF725	20	30	30	15	10	100	100	20	200

Tertiary igneous rocks

Field No.	Rocktype	Lat.	Long.	Fe	Mg	Ca	Ti
79HF204	Qtz. Porphyry	39.193	-106.773	2.00	0.20	1.00	0.07
79HF237	Diorite	39.187	-106.756	10.00	2.00	2.00	0.50
79HF239	Qtz. Porphyry	39.178	-106.759	1.50	0.10	1.00	0.03
79HF252	Vitrophyre	39.110	-106.611	2.00	0.50	1.50	0.15
79HF253	Ash-flow Tuff	39.110	-106.611	1.50	0.50	1.00	0.15
79HF259	Qtz. Porphyry	39.109	-106.611	2.00	0.10	0.50	0.02
79HF268	Qtz. Porphyry	39.129	-106.681	1.00	0.10	1.00	0.03
79HF269	Qtz. Porphyry	39.140	-106.689	1.50	0.10	0.50	0.02
79HF275	Diorite	39.248	-106.724	5.00	1.00	0.70	0.30
79HF287	Qtz. Porphyry	39.175	-106.758	1.50	0.20	0.15	0.05
79HF295	Qtz. Porphyry	39.130	-106.562	1.50	0.10	1.00	0.02
79HF296	Qtz. Porphyry	39.131	-106.563	1.50	0.10	0.50	0.02
79HF297A	Qtz. Porphyry	39.134	-106.564	1.50	0.20	0.30	0.05
79HF302	Qtz. Porphyry	39.126	-106.592	1.50	0.10	0.50	0.02
79HF304	Qtz. Porphyry	39.134	-106.592	2.00	0.10	0.05	0.02
79HF307	Qtz. Porphyry	39.146	-106.581	3.00	0.20	1.00	0.05
79HF313	Qtz. Porphyry	39.189	-106.737	2.00	0.20	0.50	0.07
79HF340	Latite	39.241	-106.713	5.00	1.00	2.00	0.30
79HF348	Qtz. Porphyry	39.146	-106.667	5.00	0.30	1.00	0.05
79HF502	Qtz. Porphyry	39.112	-106.549	1.50	0.10	0.70	0.02
79HF509	Qtz. Porphyry	39.121	-106.558	2.00	0.07	0.50	0.02
79HF512	Latite	39.125	-106.536	3.00	0.70	0.50	0.20
79HF519B	Qtz. Porphyry	39.117	-106.605	2.00	0.10	0.50	0.05
79HF521	Qtz. Porphyry	39.161	-106.531	2.00	0.10	0.70	0.01

Tertiary igneous rocks (cont.)

Field No.	Mn	B	Ba	Be	Co	Cr	Cu	La	Mo
79HF204	700	10l	1500	1.5	5n	10	100	20	5n
79HF237	1000	10	1000	1.0l	20	10l	20	30	5n
79HF239	500	10l	1500	1.0	5n	10	5	20n	5n
79HF252	500	10l	2000	1.0	5l	10	10	70	5n
79HF253	500	10l	2000	1.0	5n	10l	5	70	5n
79HF259	300	10l	1500	1.0	5l	20	15	20n	5
79HF268	500	10l	2000	1.0	5n	10	7	20n	5n
79HF269	300	10l	2000	1.5	5n	15	10	20n	5n
79HF275	700	10l	700	1.0l	15	10	7	20	5n
79HF287	500	10	1000	1.5	5n	10l	5	20n	5n
79HF295	500	10l	2000	1.0	5n	10	10	20n	5n
79HF296	500	10n	2000	1.0	5l	10	7	20n	5
79HF297A	200	10l	2000	1.0	5n	10l	5l	20	5n
79HF302	500	10l	2000	1.0	5n	10	10	20n	7
79HF304	200	10l	500	1.5	5n	20	15	20n	5
79HF307	500	10l	2000	1.0	5n	30	15	20n	5
79HF313	500	10l	2000	1.0	5n	10	10	20	5n
79HF340	1000	10l	1500	1.0l	5l	10	10	20n	5n
79HF348	500	10l	1500	1.5	5	30	20	20n	5
79HF502	500	10	700	1.0	5n	15	7	20n	5n
79HF509	500	10l	1000	1.0	5n	20	10	20n	5
79HF512	700	20	1000	2.0	5	10	7	20n	5n
79HF519B	200	10l	2000	1.0	5n	20	10	20n	5l
79HF521	500	10l	1000	1.5	5n	20	20	20n	5l

Tertiary igneous rocks (cont.)

Field No.	Nb	Ni	Pb	Sc	Sn	Sr	V	Y	Zr
79HF204	20n	5	20	5n	10	1000	10n	15	70
79HF237	20n	5	100	20	10n	1000	200	30	100
79HF239	20l	5	50	5n	10n	1000	10n	20	50
79HF252	20n	5l	30	5	10n	700	20	20	100
79HF253	20n	5n	30	5	10n	500	15	20	100
79HF259	20l	15	30	5n	10n	500	10n	10	50
79HF268	20n	5l	20	5n	10n	500	10n	10	30
79HF269	20l	5	15	5n	10n	500	10n	10l	100
79HF275	20l	7	15	10	10n	700	100	20	200
79HF287	20	5l	15	5n	10n	300	10n	20	50
79HF295	20l	7	30	5n	10n	700	10n	10l	100
79HF296	20l	5l	50	5n	10n	700	10n	10n	50
79HF297A	20l	5n	30	5n	10n	500	10n	10n	50
79HF302	20l	5	30	5n	10n	500	10n	10n	30
79HF304	20n	15	10l	5n	10n	100l	10n	10l	50
79HF307	20l	10	30	5n	10n	1000	10l	10n	70
79HF313	20l	5	15	5n	10n	1000	10n	10	70
79HF340	20n	5l	20	5	10n	1000	50	10	100
79HF348	20l	15	30	5	10n	700	10	20	70
79HF502	20	5	50	5l	10n	500	10n	10	50
79HF509	20l	10	50	5n	10n	500	10n	10	30
79HF512	20	5	30	5	10n	200	50	15	50
79HF519B	20l	10	20	5n	10n	500	10n	10l	50
79HF521	20l	10	50	5n	10n	500	10n	10	50

Paleozoic sedimentary rocks

Field No.	Rocktype	Lat.	Long.	Fe	Mg	Ca	Ti
79HF229A	Dolomite	39.216	-106.776	1.50	1.00	10.00	0.10
79HF245	Quartzite	39.332	-106.677	3.00	0.05	0.05	0.05
79HF246	Quartzite	39.332	-106.677	5.00	0.07	0.05	0.05
79HF249	Quartzite	39.235	-106.749	0.50	0.10	0.30	0.10
79HF250	Quartzite	39.223	-106.746	1.50	0.03	0.05	0.03

Field No.	Mn	B	Ba	Be	Co	Cr	Cu	La	Mo
79HF229A	700	50	20	1.0n	7	30	10	20n	5n
79HF245	200	10	200	1.0	5	20	20	20n	5
79HF246	500	10	500	2.0	7	20	30	20n	5
79HF249	50	15	500	1.0n	5n	10	5	20n	5n
79HF250	70	10l	20	1.0n	5l	10l	20	20n	15

Field No.	Nb	Ni	Pb	Sc	Sn	Sr	V	Y	Zr
79HF229A	20n	10	20	7	10n	100l	50	30	100
79HF245	20n	20	10n	5n	10n	100n	20	10n	70
79HF246	20n	20	20	5n	10n	100n	50	20	200
79HF249	20n	5n	10n	5n	10n	100n	10	15	200
79HF250	20n	5	15	5n	10n	100n	10	10n	50

Twin Lakes Granite (Tertiary)

Field No.	Rocktype	Lat.	Long.	Fe	Mg	Ca	Ti
79HF701	Granite	39.071	-106.450	2.00	0.50	1.00	0.20
79HF702	Granite	39.071	-106.471	3.00	0.50	1.00	0.10
79HF703	Granite	39.072	-106.478	3.00	0.70	1.00	0.30
79HF704	Granite	39.070	-106.494	2.00	0.50	2.00	0.20
79HF705	Granite	39.069	-106.510	5.00	0.50	1.00	0.15

Field No.	Mn	B	Ba	Be	Co	Cr	Cu	La	Mo
79HF701	500	10l	500	1.5	5	10n	10	70	5
79HF702	300	10l	500	1.0	10	10	5	30	5l
79HF703	500	10l	1000	1.0	10	20	5	30	5n
79HF704	500	10n	700	1.0	5	10	5l	20	5n
79HF705	700	10l	500	1.0	5l	10n	5l	50	5n

Field No.	Nb	Ni	Pb	Sc	Sn	Sr	V	Y	Zr
79HF701	20	5l	30	5l	10n	500	50	10	100
79HF702	20n	5	30	5l	10n	500	70	10	150
79HF703	20	10	20	5	10n	1000	100	30	150
79HF704	20l	5l	30	5	10n	1000	70	30	100
79HF705	20n	5n	20	5l	10n	700	70	15	150

Table 2.--X-ray fluorescence data for selected rocks

Tertiary igneous rocks

Field No.	Rb	Sr	Y	Zr	Nb
79HF259	113	596	<5	35	11
79HF239	131	848	11	49	12
79HF509	134	364	<5	41	16
79HF313	130	692	9	88	15
79HF304	83	80	5	32	12
79HF252	131	645	17	201	8
79HF237	95	993	23	154	10
79HF269	184	630	<5	35	18
79HF268	121	646	6	40	8
79HF340	68	897	6	75	6
79HF502	136	396	7	40	13
79HF297A	108	381	5	36	8
79HF295	133	684	6	37	15
79HF348	122	603	<5	56	14
79HF521	122	539	6	25	13
79HF302	108	659	5	33	12
79HF512	130	322	8	52	21
79HF287	152	438	8	58	13
79HF307	107	628	<5	51	13
79HF296	127	749	<5	34	14
79HF253	111	429	14	152	9
79HF204	103	896	12	91	13
79HF519B	100	515	<5	51	11
79HF275	76	919	18	252	10

Precambrian granites

Field No.	Rb	Sr	Y	Zr	Nb
79HF726	211	359	26	296	13
79HF328	186	231	8	240	8
79HF721	200	300	12	247	12
79HF524	197	279	7	214	<5
79HF323	226	280	22	341	21
79HF305	159	176	10	117	<5
79HF270	200	524	21	473	20
79HF291	235	82	7	125	<5
79HF288	292	124	17	160	17
79HF228	103	768	20	340	16
79HF339	291	140	6	190	10
79HF723	249	449	13	448	13
79HF730	151	186	13	245	10
79HF522	220	237	20	529	19
79HF309	207	200	14	266	9
79HF342	319	124	8	215	14
79HF513	137	109	7	119	5

Table 3.--Emission spectrographic data for various fractions of stream sediment samples

"S" and "T" suffixes in the sample numbers refer to two samples taken at the same site.

"N", "M", and "F" suffixes, respectively, refer to non-magnetic, magnetic, and -200 mesh fractions of the samples.

In addition to the data in the table, all samples were analyzed for Ag, As, Au, Bi, Cd, Sb, and W. These elements were not found with the following exceptions:

1. 79HF104TG contained 50 ppm W.
2. 79HF112TN contained 300 ppm W.
3. 79HF113TM contained 5 ppm Ag.
4. 79HF112TF contained 20 (L) ppm Cd.

Detection limits were the same as those given in the explanation of Table 1.

Nonmagnetic Fraction

SAMPLE	Lat.	Long.	Fe(%)	Mg(%)	Ca(%)	Ti(%)	Mn(ppm)	B(ppm)	Ba(ppm)	Be(ppm)
8HF004SN	39 07 34N	106 34 44W	10.0	1.00	0.50	0.70	5000	10 N	300	1.0N
8HF004TN	39 07 34N	106 34 44W	7.0	0.30	0.15	0.70	2000	10	300	1.0L
8HF005SN	39 07 48N	106 36 50W	15.0	0.15	0.07	1.00G	1500	10 N	100	1.0L
8HF005TN	39 07 48N	106 36 50W	15.0	0.20	0.07	1.00G	1500	10 N	150	1.0N
8HF006SN	39 07 34N	106 36 47W	10.0	1.00	0.10	0.50	3000	10	100	1.0N
8HF006TN	39 07 34N	106 36 47W	10.0	0.50	0.10	0.50	3000	15	200	1.0
8HF007SN	39 07 26N	106 34 26W	15.0	0.50	0.07	0.30	3000	10 N	150	1.0L
8HF007TN	39 07 26N	106 34 26W	7.0	0.30	0.15	0.70	2000	10 N	70	1.0
8HF012SN	39 11 20N	106 41 10W	15.0	0.10	0.05	1.00G	1000	10 N	50	1.0N
8HF012TN	39 11 20N	106 41 10W	15.0	0.15	0.05	1.00G	1500	10 N	70	1.0N
8HF013SN	39 11 20N	106 41 06W	5.0	0.20	0.30	1.00G	1000	10 N	300	1.0N
8HF013TN	39 11 20N	106 41 06W	10.0	0.05	0.10	1.00G	1000	10 N	70	1.0N
8HF014SN	39 14 06N	106 35 38W	5.0	0.20	0.50	1.00G	500	10 N	200	5.0
8HF014TN	39 14 06N	106 35 38W	3.0	0.50	1.00	1.00G	1000	10 N	700	2.0
8HF015SN	39 15 47N	106 38 20W	10.0	0.30	0.30	1.00	1500	10 N	300	3.0
8HF015TN	39 15 47N	106 38 20W	7.0	0.15	0.70	1.00G	2000	10	300	2.0
8HF016SN	39 15 29N	106 37 23W	10.0	0.50	0.50	1.00G	1500	10 N	100	1.5
8HF016TN	39 15 29N	106 37 23W	10.0	0.20	0.30	1.00G	2000	10 N	200	1.5
8HF017SN	39 17 31N	106 37 34W	5.0	0.15	0.50	1.00G	1000	10 L	300	1.0N
8HF017TN	39 17 31N	106 37 34W	7.0	0.20	0.50	1.00G	1000	10	500	2.0
8HF018SN	39 17 28N	106 38 35W	10.0	0.10	0.20	1.00G	1500	10 N	100	1.0L
8HF018TN	39 17 28N	106 38 35W	10.0	0.07	0.07	1.00G	1500	10	50	1.0N
8HF019SN	39 17 28N	106 38 35W	7.0	0.10	0.15	1.00G	3000	15	70	2.0
8HF019TN	39 17 28N	106 38 35W	10.0	0.15	0.30	1.00G	3000	15	150	3.0
8HF020SN	39 17 31N	106 39 07W	10.0	0.50	0.30	1.00G	1500	10	200	2.0
8HF020TN	39 17 31N	106 39 07W	7.0	0.50	1.00	0.70	1000	15	500	2.0
8HF021SN	39 18 50N	106 39 14W	15.0	0.10	0.07	1.00G	1000	10 N	70	1.0L
8HF021TN	39 18 50N	106 39 14W	10.0	0.15	0.15	1.00G	1500	10	150	1.0
8HF023SN	39 19 55N	106 43 16W	15.0	0.10	0.05	0.15	300	30	300	1.0
8HF023TN	39 19 55N	106 43 16W	15.0	0.10	0.07	0.20	500	30	150	1.5
8HF024SN	39 20 28N	106 42 40W	20.0	0.10	0.05	0.30	300	20	200	2.0
8HF024TN	39 20 28N	106 42 40W	15.0	0.30	0.05	0.20	300	15	500	2.0
8HF025SN	39 20 56N	106 42 29W	20.0	0.15	0.05	0.20	300	20	500	1.0L
8HF026SN	39 16 23N	106 34 37W	3.0	0.30	0.70	1.00G	1000	10 N	500	1.0
8HF026TN	39 16 23N	106 34 37W	10.0	0.07	0.15	1.00G	1000	10 N	100	1.0L
8HF027SN	39 20 13N	106 39 54W	15.0	0.20	0.10	0.70	700	15	100	1.0
8HF027TN	39 20 13N	106 39 54W	15.0	0.07	0.07	0.20	300	20	100	1.0N
8HF028SN	39 11 13N	106 30 47W	10.0	1.00	0.10	0.50	2000	10 N	50	1.0N
8HF028TN	39 11 13N	106 30 47W	15.0	0.70	0.10	0.70	1500	10 N	300	1.0
8HF029SN	39 14 06N	106 31 19W	15.0	0.70	0.20	1.00	2000	10 N	100	1.0N
8HF029TN	39 14 06N	106 31 19W	15.0	0.30	0.10	1.00G	1500	10 N	70	1.0L
8HF030SN	39 11 49N	106 32 31W	10.0	0.20	0.70	1.00G	700	10 N	100	1.0L
8HF030TN	39 11 49N	106 32 31W	10.0	0.20	0.50	1.00G	3000	15	100	1.0
8HF031SN	39 11 56N	106 32 38W	10.0	0.15	0.10	1.00G	2000	10 N	100	1.0
8HF032SN	39 12 25N	106 32 31W	20.0	0.30	0.10	1.00G	1000	10 N	50	1.0N

Nonmagnetic Fraction-continued

SAMPLE	Co(ppm)	Cr(ppm)	Cu(ppm)	La(ppm)	Mo(ppm)	Nb(ppm)	Ni(ppm)	Pb(ppm)	Sc(ppm)	Sn(ppm)
8HF004SN	15	150	10	700	5 N	30	15	70	70	20
8HF004TN	10	150	15	500	5 N	20	5	70	70	10
8HF005SN	10	200	10	700	5 N	20	7	100	20	30
8HF005TN	10	200	5	700	5 N	10 L	5	150	15	30
8HF006SN	15	150	7	700	5 N	30	15	70	70	10 N
8HF006TN	15	200	7	500	5 N	10 L	30	70	70	10 N
8HF007SN	15	150	20	700	5 N	10 L	5 L	30	70	10 N
8HF007TN	10	150	10	700	5 N	10 L	5	70	70	10
8HF012SN	10	200	10	1000	5 N	30	5	70	15	50
8HF012TN	10	150	10	700	5 N	50	5	70	20	50
8HF013SN	15	150	10	500	5 N	20	5 L	100	10	50
8HF013TN	20	150	10	700	5 N	20	5	70	10	30
8HF014SN	15	150	10	500	5 N	50	5 L	70	30	30
8HF014TN	10	150	15	500	5 N	50	10	70	30	15
8HF015SN	30	150	15	700	5 N	20	10	100	10	20
8HF015TN	20	200	10	700	5 N	50	5	100	20	50
8HF016SN	15	200	15	700	5 N	30	7	70	15	50
8HF016TN	15	200	5	500	5 N	30	5	70	15	30
8HF017SN	15	200	10	700	5 N	20	5 L	150	20	30
8HF017TN	50	150	20	1000	5 N	30	10	100	10	30
8HF018SN	5	200	5 L	1000	5 N	20	5 L	150	15	30
8HF018TN	5	200	5	1000 G	5 N	20	5 L	150	15	50
8HF019SN	10	150	5	1000 G	5 N	100	5	100	15	20
8HF019TN	15	150	5	1000	5 N	30	5 L	150	15	20
8HF020SN	10	300	10	700	5 N	50	20	70	15	10
8HF020TN	10	200	15	500	5 N	10 N	30	100	15	300
8HF021SN	50	200	30	700	5 N	30	20	500	10	50
8HF021TN	15	200	5	500	5 N	30	5	70	20	30
8HF023SN	20	1500	30	500	5 N	10 N	50	50	5	15
8HF023TN	15	1000	30	500	5 N	20	30	70	10	15
8HF024SN	20	1000	10	300	5 N	10 L	30	30	10	20
8HF024TN	15	700	15	300	5 N	10 N	30	70	5	15
8HF025SN	20	1500	10	300	5 N	10 N	20	10 N	10	15
8HF026SN	10	150	7	500	5 N	50	10	70	20	30
8HF026TN	10	150	10	300	5 N	50	5 N	70	30	50
8HF027SN	20	300	7	700	5 N	10 L	30	50	15	20
8HF027TN	20	1500	30	300	5 N	10 L	50	50	5	20
8HF028SN	10	150	7	1000	5 N	50	15	100	70	10
8HF028TN	15	300	10	1000 G	5 N	70	20	70	50	10 N
8HF029SN	15	200	10	700	5 N	20	15	150	30	30
8HF029TN	15	200	15	1000 G	15	10 L	5	150	30	30
8HF030SN	15	300	10	700	5 N	20	5	70	50	30
8HF030TN	15	200	7	1000 G	5 N	30	5	70	20	30
8HF031SN	10	200	7	1000 G	5 N	20	5	150	15	30
8HF032SN	15	200	5 L	700	5 N	30	10	100	30	30

Nonmagnetic Fraction-continued

SAMPLE	Sr(ppm)	Th(ppm)	V(ppm)	Y(ppm)	Zn(ppm)	Zr(ppm)
8HF004SN	500	500	100	200 G	200 N	700
8HF004TN	100 L	200	100	200 G	200 N	700
8HF005SN	100 N	500	150	200 G	200 L	500
8HF005TN	100 L	300	100	200 G	200	500
8HF006SN	500	200	100	200 G	200 N	700
8HF006TN	100 N	100	70	200 G	200 N	300
8HF007SN	100 L	100	70	200	200 N	700
8HF007TN	100 N	200	100	200 G	200 N	1000 G
8HF012SN	300	1500	150	200	200	700
8HF012TN	100	1000	200	150	300	200
8HF013SN	100	300	100	200	200 N	1000
8HF013TN	100 N	500	200	200 G	200 L	700
8HF014SN	100	500	150	100	200 N	1000 G
8HF014TN	300	300	100	70	200 N	700
8HF015SN	700	300	100	200 G	200 N	700
8HF015TN	100 N	100 N	150	200	200 N	300
8HF016SN	100	700	150	100	200 N	700
8HF016TN	100	1500	200	100	200 N	700
8HF017SN	100	1000	100	150	200 N	1000 G
8HF017TN	100	1000	150	150	200 N	1000 G
8HF018SN	100 L	1000	100	200 G	200 L	1000 G
8HF018TN	100 N	1500	150	200 G	200 L	1000
8HF019SN	100 N	2000	150	200 G	200	1000
8HF019TN	100 N	1000	150	200	200 L	500
8HF020SN	100 L	300	300	200 G	300	700
8HF020TN	100	100 N	100	200	200	500
8HF021SN	100 N	500	100	200	200	1000 G
8HF021TN	100 N	500	200	200 G	200 L	500
8HF023SN	100 N	100 N	300	200	300	700
8HF023TN	100	100	300	200	300	700
8HF024SN	100 N	100 N	300	150	200	300
8HF024TN	100 N	100 N	300	150	200	300
8HF025SN	100	100 N	300	150	300	200
8HF026SN	100	300	150	100	200 N	700
8HF026TN	100 N	500	200	100	200	700
8HF027SN	100 N	100	300	200	200 L	500
8HF027TN	100 L	100 N	300	200	200	200
8HF028SN	100 N	300	150	200 G	200	1000
8HF028TN	100 L	700	100	200 G	200	700
8HF029SN	100 N	500	150	200 G	200	700
8HF029TN	100 L	1000	100	200 G	200 N	1000
8HF030SN	100 L	500	100	200 G	200 L	1000 G
8HF030TN	100 N	100 N	50	200 G	200 N	1000 G
8HF031SN	100 L	2000	100	200 G	200 L	1000 G
8HF032SN	300	700	300	150	200 N	1000

Nonmagnetic Fraction-continued

SAMPLE	Lat.	Long.	Fe(%)	Mg(%)	Ca(%)	Ti(%)	Mn(ppm)	B(ppm)	Ba(ppm)	Be(ppm)
8HF033SN	39 13 16N	106 32 13W	20.0	0.20	0.15	1.00G	1000	10 N	50	1.0L
8HF034SN	39 13 34N	106 32 06W	15.0	0.15	0.15	1.00G	1500	10 N	50	1.0L
8HF035SN	39 13 52N	106 31 59W	15.0	0.20	0.50	1.00G	3000	10 N	200	1.0N
8HF036SN	39 11 35N	106 34 41W	10.0	0.30	0.30	1.00G	1000	10 N	300	1.5
8HF036TN	39 11 35N	106 34 41W	15.0	0.10	0.10	1.00G	700	10 N	70	1.0
8HF037SN	39 11 35N	106 34 44W	15.0	0.05	0.15	1.00G	1000	10 N	70	1.0N
8HF037TN	39 11 35N	106 34 44W	10.0	0.03	0.10	1.00G	1500	10 N	50	1.0L
8HF038SN	39 11 56N	106 34 44W	10.0	0.20	0.70	1.00G	1500	10 N	200	1.0
8HF038TN	39 11 56N	106 34 44W	10.0	0.07	0.30	1.00G	700	10 N	150	1.0N
8HF039SN	39 12 54N	106 34 52W	7.0	0.10	0.30	1.00G	500	10 N	70	2.0
8HF039TN	39 12 54N	106 34 52W	10.0	0.50	0.50	1.00G	500	10 N	500	1.5
8HF040SN	39 13 16N	106 34 52W	10.0	0.30	0.70	1.00G	700	10 N	300	1.5
8HF040TN	39 13 16N	106 34 52W	7.0	0.30	0.70	1.00G	700	10 N	300	1.0
8HF041SN	39 12 36N	106 44 53W	10.0	0.15	0.70	1.00G	1500	10 N	300	1.0L
8HF041TN	39 12 25N	106 44 53W	15.0	0.05	0.30	1.00G	2000	10 N	70	2.0
8HF042SN	39 12 07N	106 43 52W	10.0	0.05	0.20	1.00G	1000	10 N	70	1.0N
8HF043SN	39 12 29N	106 44 38W	15.0	0.10	0.30	1.00	2000	10	20	1.0
9HF101SN	39 14 38N	106 43 30W	20.0	0.30	0.15	1.00G	1000	10	100	1.0N
9HF101TN	39 14 38N	106 43 30W	20.0	0.20	0.10	1.00G	1000	10 N	100	1.0N
9HF102SN	39 08 20N	106 45 54W	15.0	0.30	1.00	1.00G	1000	10 N	100	1.0N
9HF102TN	39 08 20N	106 45 54W	15.0	0.15	0.50	1.00G	1000	10 N	70	1.0N
9HF103SN	39 07 59N	106 45 11W	15.0	0.10	0.30	1.00G	1000	10 N	200	1.0
9HF103TN	39 07 59N	106 45 11W	15.0	0.10	0.50	1.00G	1000	10 N	100	1.0N
9HF104TN	39 07 26N	106 40 55W	20.0	0.05	0.10	1.00G	700	10 N	70	1.0N
9HF105SN	39 07 05N	106 42 22W	15.0	0.05	0.10	1.00G	1000	10 N	70	1.0N
9HF105TN	39 07 05N	106 42 22W	20.0	0.05	0.05	1.00G	1000	10 N	20	1.0N
9HF106SN	39 09 04N	106 47 02W	15.0	0.07	0.20	1.00G	700	10 N	200	1.0N
9HF106TN	39 09 04N	106 47 02W	15.0	0.10	0.20	1.00G	1000	10 N	200	1.0N
9HF107SN	39 09 43N	106 47 13W	15.0	0.10	0.20	1.00G	1000	10 N	200	1.0N
9HF107TN	39 09 43N	106 47 13W	20.0	0.10	0.20	1.00G	1000	10 N	70	1.0N
9HF108SN	39 14 38N	106 43 37W	10.0	0.20	0.30	1.00G	1500	10 L	300	1.0
9HF108TN	39 14 38N	106 43 37W	15.0	0.20	0.30	1.00G	1000	10	150	1.0N
9HF109SN	39 14 35N	106 44 06W	15.0	0.20	0.20	1.00G	1000	10 N	200	1.0
9HF110SN	39 11 46N	106 43 08W	15.0	0.05	0.07	1.00G	1000	10 N	50	1.0N
9HF111SN	39 16 26N	106 33 40W	20.0	0.20	0.15	1.00G	1500	10 N	70	1.0N
9HF111TN	39 16 26N	106 33 40W	15.0	0.15	0.10	1.00G	2000	10 N	20	1.0N
9HF112SN	39 07 37N	106 38 06W	20.0	0.15	0.10	1.00G	500	10 N	200	1.0N
9HF112TN	39 07 37N	106 38 06W	20.0	0.15	0.10	1.00G	700	10 N	150	1.0N
9HF113SN	39 07 34N	106 39 00W	15.0	0.10	0.10	1.00G	1000	10 N	100	1.0N
9HF113TN	39 07 34N	106 39 00W	20.0	0.07	0.07	1.00G	1500	10 N	30	1.0N
9HF115SN	39 06 36N	106 35 35W	15.0	0.30	0.15	0.30	3000	10 N	150	1.0
9HF115TN	39 06 36N	106 35 35W	15.0	0.30	0.10	0.30	3000	10 N	70	1.0L
9HF116SN	39 12 07N	106 41 20W	15.0	0.10	0.30	1.00G	1000	10 N	200	1.0N
9HF116TN	39 12 07N	106 41 20W	15.0	0.20	0.10	1.00G	1500	10 N	100	1.0N

Nonmagnetic Fraction-continued

SAMPLE	Co(ppm)	Cr(ppm)	Cu(ppm)	La(ppm)	Mo(ppm)	Nb(ppm)	Ni(ppm)	Pb(ppm)	Sc(ppm)	Sn(ppm)
8HF033SN	15	200	5 L	1000 G	5 N	50	15	100	20	50
8HF034SN	15	200	7	500	5 N	20	5	70	20	30
8HF035SN	15	150	15	700	5 N	20	10	70	30	30
8HF036SN	15	150	7	700	5 N	50	5	100	20	50
8HF036TN	15	300	10	1000 G	5 N	20	15	150	20	50
8HF037SN	10	200	5	1000	5 N	30	5 N	70	30	70
8HF037TN	10	150	5 L	300	5 N	70	5 N	50	20	50
8HF038SN	15	150	5	500	5 N	100	5 L	70	30	50
8HF038TN	15	200	7	500	5 N	50	5	70	20	50
8HF039SN	50	150	15	500	5 N	20	10	50	15	30
8HF039TN	50	150	20	500	5 N	30	20	70	20	30
8HF040SN	20	150	7	700	5 N	50	10	100	20	50
8HF040TN	15	200	20	700	5 N	20	5	100	20	30
8HF041SN	15	100	20	1000	5 N	50	5	200	10	50
8HF041TN	20	150	10	1000 G	5 N	70	5	100	15	50
8HF042SN	10	150	15	1000	5 N	30	5 L	100	10	70
8HF043SN	30	300	15	1000 G	5 N	20	10	150	10	10
9HF101SN	15	300	7	1000 G	5 N	50	10	50	10	20
9HF101TN	15	300	10	1000 G	5 N	50	15	200	10	300
9HF102SN	70	200	20	1000 G	5 N	70	15	70	10	50
9HF102TN	70	200	30	1000 G	5 N	50	20	150	10	50
9HF103SN	50	200	15	1000 G	5 N	50	15	100	10	20
9HF103TN	50	200	30	1000 G	5 N	50	15	150	15	30
9HF104TN	20	200	10	1000 G	5 N	50	10	50	10	50
9HF105SN	30	300	10	1000 G	5 N	50	15	100	10	50
9HF105TN	20	300	10	1000 G	5 N	50	10	100	10	50
9HF106SN	15	150	7	1000 G	5 N	50	10	150	7	50
9HF106TN	20	150	7	1000 G	5 N	50	7	150	7	70
9HF107SN	30	150	10	1000 G	5 N	50	10	70	7	30
9HF107TN	50	200	20	1000 G	5 N	70	10	100	10	30
9HF108SN	10	100	7	1000 G	5 N	50	7	100	10	20
9HF108TN	15	200	10	1000 G	5 N	50	10	100	10	30
9HF109SN	15	150	10	1000 G	5 N	50	10	70	15	20
9HF110SN	10	200	15	1000 G	5 N	70	5	70	10	50
9HF111SN	20	300	5	1000 G	5 N	70	7	70	20	30
9HF111TN	20	200	10	1000 G	5 N	50	10	70	20	50
9HF112SN	20	1000	10	1000 G	5 N	30	30	150	15	30
9HF112TN	20	700	15	1000 G	15	30	20	150	15	30
9HF113SN	20	300	7	1000 G	5 N	50	15	100	15	50
9HF113TN	20	500	7	1000 G	5 N	50	10	100	15	50
9HF115SN	15	300	5	1000 G	5 N	70	15	70	70	10 N
9HF115TN	10	200	5	1000	5 N	70	10	70	70	10 N
9HF116SN	15	200	10	1000	5 N	20	5	70	20	50
9HF116TN	20	150	10	700	5 N	30	5	70	20	50

Nonmagnetic Fraction-continued

SAMPLE	Sr(ppm)	Th(ppm)	V(ppm)	Y(ppm)	Zn(ppm)	Zr(ppm)
8HF033SN	100 N	1000	150	200 G	200	1000
8HF034SN	100 N	500	200	200 G	200	1000
8HF035SN	100	700	150	200	200	500
8HF036SN	200	1500	200	150	200	700
8HF036TN	100 L	1000	100	200 G	200 L	1000 G
8HF037SN	100 L	100	100	100	200	700
8HF037TN	100 N	300	300	100	200	300
8HF038SN	100	200	150	70	200	700
8HF038TN	100 N	200	150	70	200 L	700
8HF039SN	100 N	100	300	100	200 N	1000 G
8HF039TN	100	500	200	100	200 N	700
8HF040SN	100	1000	150	150	200 N	700
8HF040TN	200	500	200	150	200 N	1000
8HF041SN	100 L	1000	100	200	500	300
8HF041TN	100 N	500	200	200	200	300
8HF042SN	100 L	300	100	200	200	700
8HF043SN	100 N	1500	150	200 G	200	1000
9HF101SN	100 N	300	150	300	200 N	500
9HF101TN	100 N	500	150	200	200 N	500
9HF102SN	100 N	700	150	200	200	500
9HF102TN	100 N	1000	150	200	200 N	1000
9HF103SN	150	500	150	200	200 N	1000
9HF103TN	100 N	700	150	200	200 N	1000 G
9HF104TN	100 N	200	150	200	200 N	200
9HF105SN	100 N	500	150	500	200	500
9HF105TN	100 N	500	150	300	200 N	500
9HF106SN	100 N	500	150	500	200 N	500
9HF106TN	100 N	300	150	200	200 N	500
9HF107SN	100 N	300	150	200	200 N	300
9HF107TN	100 N	500	150	500	200	700
9HF108SN	150	300	100	200	200 N	1000
9HF108TN	100 N	500	150	300	200 N	1000
9HF109SN	100 N	500	150	300	200 N	700
9HF110SN	100 N	500	200	200	500	200
9HF111SN	100 N	500	150	200	200 N	1000
9HF111TN	100 N	300	150	200	200 N	1000
9HF112SN	100 N	500	200	1000	200	500
9HF112TN	100 N	500	150	1500	200 N	500
9HF113SN	100 N	500	150	700	200	500
9HF113TN	100 N	500	200	700	200 N	500
9HF115SN	100 N	500	150	200 G	200 N	500
9HF115TN	100 N	500	150	200 G	200 N	300
9HF116SN	100	150	150	150	200	700
9HF116TN	100	150	300	150	200	700

Magnetic Fraction

SAMPLE	Lat.	Long.	Fe(%)	Mg(%)	Ca(%)	Ti(%)	Mn(ppm)	B(ppm)	Ba(ppm)	Be(ppm)
8HF004SM	39 07 34N	106 34 44W	20.0	0.10	0.05	1.00G	1000	10 N	70	1.0N
8HF004TM	39 07 34N	106 34 44W	15.0	0.05	0.05	1.00G	1000	10 N	70	1.0N
8HF005SM	39 07 48N	106 36 50W	15.0	0.05	0.05L	1.00G	1000	10 N	50	1.0N
8HF005TM	39 07 48N	106 36 50W	15.0	0.05	0.05	1.00G	1000	10 N	20	1.5
8HF006SM	39 07 34N	106 36 47W	20.0	0.10	0.05	0.30	500	10 N	50	1.0L
8HF006TM	39 07 34N	106 36 47W	15.0	0.07	0.05	0.70	500	10 N	70	1.0L
8HF007SM	39 07 26N	106 34 26W	20.0	0.10	0.05	1.00	500	10 N	70	1.5
8HF007TM	39 07 26N	106 34 26W	20.0	0.10	0.05	0.30	500	10 N	70	1.0
8HF012SM	39 11 20N	106 41 10W	15.0	0.02	0.05	1.00G	1000	10 N	20	1.0N
8HF012TM	39 11 20N	106 41 10W	15.0	0.03	0.07	1.00G	1500	10 N	20	1.0N
8HF013SM	39 11 20N	106 41 06W	15.0	0.02	0.07	1.00G	700	10 N	20	1.0N
8HF013TM	39 11 20N	106 41 06W	20.0	0.03	0.07	1.00G	1000	10 N	50	1.0N
8HF014SM	39 14 06N	106 35 38W	20.0	0.07	0.05L	0.20	700	10 N	20	1.0N
8HF014TM	39 14 06N	106 35 38W	15.0	0.03	0.07	0.50	500	10 N	20	1.0N
8HF015SM	39 15 47N	106 38 20W	15.0	0.15	0.07	1.00G	700	10 N	70	1.0L
8HF015TM	39 15 47N	106 38 20W	20.0	0.10	0.05	0.30	500	10 N	100	1.0L
8HF016SM	39 15 29N	106 37 23W	15.0	0.05	0.07	1.00G	1000	10 N	50	1.0N
8HF016TM	39 15 29N	106 37 23W	15.0	0.10	0.07	1.00G	1000	10 N	70	1.0N
8HF017SM	39 17 31N	106 37 34W	15.0	0.03	0.07	1.00G	1500	10 N	20	1.0N
8HF017TM	39 17 31N	106 37 34W	20.0	0.03	0.07	1.00G	1000	10 N	50	1.0N
8HF018SM	39 17 28N	106 38 35W	20.0	0.07	0.07	1.00G	1000	10 N	20	1.0N
8HF018TM	39 17 28N	106 38 35W	15.0	0.05	0.05	1.00G	1000	10 N	20	1.0N
8HF019SM	39 17 28N	106 38 35W	20.0	0.07	0.05L	0.70	1000	10 N	20	1.0L
8HF019TM	39 17 28N	106 38 35W	15.0	0.03	0.07	1.00G	700	10 N	50	1.0N
8HF020SM	39 17 31N	106 39 07W	15.0	0.05	0.07	0.20	300	10 N	50	1.0N
8HF020TM	39 17 31N	106 39 07W	15.0	0.10	0.07	0.30	500	30	100	1.0L
8HF021SM	39 18 50N	106 39 14W	15.0	0.02	0.05	1.00G	1000	10 N	20	1.0N
8HF021TM	39 18 50N	106 39 14W	15.0	0.05	0.05	1.00G	1000	10 N	20	1.0N
8HF023SM	39 19 55N	106 43 16W	15.0	0.05	0.05	0.15	300	10 N	50	1.0
8HF023TM	39 19 55N	106 43 16W	15.0	0.07	0.05L	0.20	500	10 N	50	1.0
8HF024SM	39 20 28N	106 42 40W	20.0	0.10	0.05	0.20	300	10 N	100	1.0
8HF024TM	39 20 28N	106 42 40W	15.0	0.07	0.05L	0.20	500	10 N	50	1.0L
8HF025SM	39 20 56N	106 42 29W	15.0	0.15	0.05	0.20	500	10 N	100	1.0L
8HF026SM	39 16 23N	106 34 37W	15.0	0.07	0.07	1.00G	1000	10 N	70	1.0N
8HF026TM	39 16 23N	106 34 37W	15.0	0.03	0.05	1.00G	1000	10 N	20	1.0N
8HF027SM	39 20 13N	106 39 54W	20.0	0.07	0.05L	0.20	500	10 N	50	1.0N
8HF027TM	39 20 13N	106 39 54W	20.0	0.10	0.05	0.30	500	10 N	100	1.0L
8HF028SM	39 11 13N	106 30 47W	20.0	0.10	0.05	0.30	500	10 N	70	1.0N
8HF028TM	39 11 13N	106 30 47W	15.0	0.10	0.05	0.20	500	10 N	100	1.0L
8HF029SM	39 14 06N	106 31 19W	20.0	0.07	0.07	0.50	700	10 N	50	1.0N
8HF029TM	39 14 06N	106 31 19W	20.0	0.05	0.07	1.00G	1000	10 N	20	1.0N
8HF030SM	39 11 49N	106 32 31W	15.0	0.05	0.07	1.00	1000	10 N	50	1.0N
8HF030TM	39 11 49N	106 32 31W	20.0	0.03	0.07	1.00G	700	10 N	20	1.0N
8HF031SM	39 11 56N	106 32 38W	20.0	0.03	0.05	0.70	700	10 N	20	1.0N
8HF032SM	39 12 25N	106 32 31W	20.0G	0.05	0.05	1.00G	1000	10 N	50	1.0N

Magnetic Fraction-continued

SAMPLE	Co(ppm)	Cr(ppm)	Cu(ppm)	La(ppm)	Mo(ppm)	Nb(ppm)	Ni(ppm)	Pb(ppm)	Sc(ppm)	Sn(ppm)
8HF004SM	15	1500	5	100	5 N	30	30	15	15	20
8HF004TM	15	700	7	100	5 N	30	30	15	10	15
8HF005SM	15	500	5	150	5 N	30	20	15	15	20
8HF005TM	15	500	7	100	5 N	30	20	10 N	10	10 N
8HF006SM	20	1000	5	150	5 N	10 L	30	15	10	15
8HF006TM	20	700	7	150	5 N	10 L	50	15	10	20
8HF007SM	15	500	10	200	5 N	20	30	10	10	15
8HF007TM	20	700	7	150	5 N	20	20	10 L	10	10
8HF012SM	15	500	5	150	5 N	20	20	20	10	20
8HF012TM	15	200	5 L	200	5 N	50	20	10	15	30
8HF013SM	10	300	10	150	5 N	30	20	15	10	15
8HF013TM	15	200	5	150	5 N	50	20	10 L	10	20
8HF014SM	15	700	5 L	150	5 N	20	30	10	10	20
8HF014TM	15	700	10	150	5 N	10 L	30	10 L	10	20
8HF015SM	15	150	10	150	5 N	50	20	10	10	10 N
8HF015TM	15	300	10	150	5 N	20	20	10	10	10 N
8HF016SM	15	500	5 L	100	5 N	50	20	15	10	20
8HF016TM	15	1000	5	150	5 N	20	20	15	10	15
8HF017SM	15	300	5	100	5 N	100	20	15	15	15
8HF017TM	15	300	5	100	5 N	50	20	20	20	15
8HF018SM	15	200	5	150	5 N	70	15	15	15	20
8HF018TM	15	200	5 L	100	5 N	50	15	10	10	15
8HF019SM	15	200	7	200	5 N	20	50	15	10	10 N
8HF019TM	10	100	15	200	5 N	20	5	10	10	10 N
8HF020SM	15	200	15	150	5 N	10 N	30	10	10	10 N
8HF020TM	15	700	15	150	5 N	10 N	30	10 L	10	10
8HF021SM	15	200	15	100	5 N	30	20	10	10	20
8HF021TM	15	500	5 L	300	5 N	30	20	10	10	15
8HF023SM	15	700	7	100	5 N	10 N	50	10 L	5	20
8HF023TM	15	300	15	150	5 N	10 N	30	10	5	20
8HF024SM	15	700	10	150	5 N	10 N	50	10	10	20
8HF024TM	15	500	15	100	5 N	10 N	50	15	5	10
8HF025SM	15	1500	15	150	5 N	10 N	30	15	5	20
8HF026SM	20	200	15	150	5 N	50	20	20	15	20
8HF026TM	15	200	5	150	5 N	50	30	15	15	15
8HF027SM	15	300	15	100	5 N	10 L	50	15	10	15
8HF027TM	15	1000	15	200	5 N	20	30	20	10	20
8HF028SM	15	1500	5	150	5 N	10 N	30	10 L	10	20
8HF028TM	15	1500	15	200	5 N	10 L	50	15	10	20
8HF029SM	15	500	5	100	5 N	30	30	15	10	15
8HF029TM	15	300	10	100	5 N	20	30	15	15	15
8HF030SM	15	200	7	150	5 N	30	30	10 L	15	10
8HF030TM	15	200	5	100	5 N	20	50	10	10	10
8HF031SM	15	200	7	100	5 N	10 L	30	15	10	10
8HF032SM	20	700	5	200	5 N	10 N	20	10 L	10	10 N

Magnetic Fraction-continued

SAMPLE	Sr(ppm)	Th(ppm)	V(ppm)	Y(ppm)	Zn(ppm)	Zr(ppm)
8HF004SM	100 N	100 N	300	10	300	100
8HF004TM	100 N	100 N	300	10	300	200
8HF005SM	100 N	100 N	300	10	500	100
8HF005TM	100 N	100 N	300	10	700	100
8HF006SM	100 N	100 N	200	20	500	100
8HF006TM	100 N	100 N	300	100	500	300
8HF007SM	100 N	100 N	300	50	500	1000
8HF007TM	100 N	100 N	300	50	300	300
8HF012SM	100 N	100 N	300	10	300	100
8HF012TM	100 N	100 N	300	20	300	200
8HF013SM	100 N	100 N	300	10	300	100
8HF013TM	100 N	100 N	200	20	300	300
8HF014SM	100 N	100 N	500	10	300	100
8HF014TM	100 N	100 N	300	10	300	300
8HF015SM	100 N	100 N	300	50	300	200
8HF015TM	100 N	100 N	200	20	300	300
8HF016SM	100 N	100 N	300	10	300	100
8HF016TM	100 N	100 N	300	10	300	200
8HF017SM	100 N	100 N	300	10	300	200
8HF017TM	100 N	100 N	300	10	300	300
8HF018SM	100 N	100 N	300	20	300	300
8HF018TM	100 N	100 N	300	20	300	100
8HF019SM	100 N	100 N	300	70	300	1000
8HF019TM	100 N	100 N	300	50	200	700
8HF020SM	100 N	100 N	300	50	300	300
8HF020TM	100 N	100 N	300	50	700	300
8HF021SM	100 N	100 N	300	10	500	100
8HF021TM	100 N	100 N	300	100	300	300
8HF023SM	100 N	100 N	300	50	300	100
8HF023TM	100 N	100 N	300	50	500	200
8HF024SM	100 N	100 N	300	20	300	200
8HF024TM	100 N	100 N	300	20	500	200
8HF025SM	100 N	100 N	200	10	300	200
8HF026SM	100 N	100 N	200	20	300	200
8HF026TM	100 N	100 N	200	10	300	200
8HF027SM	100 N	100 N	300	10	500	100
8HF027TM	100 N	100 N	300	50	300	300
8HF028SM	100 N	100 N	200	20	700	100
8HF028TM	100 N	100 N	300	70	1000	200
8HF029SM	100 N	100 N	200	10	300	300
8HF029TM	100 N	100 N	300	20	500	200
8HF030SM	100 N	100 N	200	20	300	300
8HF030TM	100 N	100 N	300	20	500	300
8HF031SM	100 N	100 N	300	20	500	700
8HF032SM	100 N	100 N	300	20	500	300

Magnetic Fraction-continued

SAMPLE	Lat.	Long.	Fe(%)	Mg(%)	Ca(%)	Ti(%)	Mn(ppm)	B(ppm)	Ba(ppm)	Be(ppm)
8HF033SM	39 13 16N	106 32 13W	20.0	0.05	0.05	1.00G	1000	10 N	20	1.0N
8HF034SM	39 13 34N	106 32 06W	20.0	0.02	0.05	1.00G	1000	10 N	20 N	1.0N
8HF035SM	39 13 52N	106 31 59W	20.0	0.03	0.07	1.00G	1000	10 N	20 N	1.0N
8HF036SM	39 11 35N	106 34 41W	20.0	0.07	0.05	0.50	1000	10 N	50	1.0L
8HF036TM	39 11 35N	106 34 41W	20.0	0.05	0.05	0.30	700	10 N	50	1.0N
8HF037SM	39 11 35N	106 34 44W	20.0	0.02	0.05	1.00G	1500	10 N	20	1.0N
8HF037TM	39 11 35N	106 34 44W	15.0	0.05	0.05	1.00G	1500	10 N	20 N	1.0N
8HF038SM	39 11 56N	106 34 44W	20.0	0.03	0.05	1.00G	1000	10 N	20	1.0N
8HF038TM	39 11 56N	106 34 44W	20.0	0.02	0.07	1.00G	1000	10 N	20	1.0N
8HF039SM	39 12 54N	106 34 52W	20.0	0.10	0.10	1.00G	700	10 N	70	1.0N
8HF039TM	39 12 54N	106 34 52W	15.0	0.10	0.07	1.00G	1000	10 N	50	1.0N
8HF040SM	39 13 16N	106 34 52W	15.0	0.10	0.07	1.00G	1000	10 N	100	1.0N
8HF040TM	39 13 16N	106 34 52W	10.0	0.05	0.10	1.00G	1000	10 N	50	1.0N
8HF041TM	39 12 25N	106 44 53W	20.0	0.05	0.05	1.00G	700	10 N	20	1.0N
8HF042SM	39 12 07N	106 43 52W	15.0	0.05	0.05	1.00G	1000	10 N	20	1.0N
8HF043SM	39 12 29N	106 44 02W	20.0	0.05	0.05L	0.20	500	10 N	20	1.0L
9HF101SM	39 14 38N	106 43 30W	20.0G	0.10	0.07	1.00	700	10 N	30	1.0N
9HF101TM	39 14 38N	106 43 30W	20.0G	0.15	0.10	1.00G	700	10 N	30	1.0N
9HF102SM	39 08 20N	106 45 54W	20.0G	0.10	0.10	1.00G	1000	10 N	50	1.0N
9HF102TM	39 08 20N	106 45 54W	20.0	0.05	0.10	1.00G	1000	10 N	20	1.0N
9HF103SM	39 07 59N	106 45 11W	20.0G	0.03	0.07	1.00G	700	10 N	20	1.0N
9HF103TM	39 07 59N	106 45 11W	20.0G	0.05	0.10	1.00G	700	10 N	20 N	1.0N
9HF104SM	39 07 26N	106 40 55W	20.0	0.02	0.05	1.00G	700	10 N	20 N	1.0N
9HF104TM	39 07 26N	106 40 55W	20.0G	0.03	0.07	1.00G	700	10 N	20 N	1.0N
9HF105SM	39 07 05N	106 42 22W	20.0G	0.02	0.05	1.00G	700	10 N	20 N	1.0N
9HF105TM	39 07 05N	106 42 22W	20.0G	0.02	0.05	1.00G	700	10 N	20 N	1.0N
9HF106SM	39 09 04N	106 47 02W	20.0	0.02L	0.05	1.00G	700	10 N	20 N	1.0N
9HF106TM	39 09 04N	106 47 02W	20.0G	0.05	0.05	1.00G	700	10 N	20 N	1.0N
9HF107SM	39 09 43N	106 47 13W	20.0	0.05	0.10	1.00G	500	10 N	20	1.0
9HF107TM	39 09 43N	106 47 13W	20.0G	0.07	0.10	1.00G	500	10 N	20 N	1.0N
9HF108SM	39 14 38N	106 43 37W	20.0G	0.07	0.07	1.00	500	10 N	20 N	1.0N
9HF108TM	39 14 38N	106 43 37W	20.0G	0.05	0.07	1.00G	700	10 N	20 N	1.0N
9HF109SM	39 14 35N	106 44 06W	20.0	0.05	0.07	1.00	500	10 N	20 N	1.0N
9HF110SM	39 11 46N	106 43 08W	20.0G	0.02	0.07	1.00G	1000	10 N	20 N	1.0N
9HF111SM	39 16 26N	106 33 40W	20.0G	0.03	0.07	1.00G	700	10 N	20 N	1.0N
9HF111TM	39 16 26N	106 33 40W	20.0G	0.02	0.10	1.00G	1000	10 N	20 N	1.0N
9HF112SM	39 07 37N	106 38 06W	20.0G	0.05	0.05	0.70	300	10 N	20 N	1.0N
9HF112TM	39 07 37N	106 38 06W	20.0G	0.07	0.10	1.00	300	10 N	30	1.0N
9HF113SM	39 07 34N	106 39 00W	20.0G	0.02	0.05	1.00G	700	10 N	20 N	1.0N
9HF113TM	39 07 34N	106 39 00W	15.0	0.02L	0.05	1.00G	700	10 N	20 N	1.0N
9HF115SM	39 06 36N	106 35 35W	15.0	0.10	0.05	0.20	300	10 N	70	1.0L
9HF115TM	39 06 36N	106 35 35W	15.0	0.05	0.05L	0.20	500	10 N	50	1.0
9HF116SM	39 12 07N	106 41 20W	15.0	0.05	0.05	1.00G	1000	10 N	20	1.0N
9HF116TM	39 12 07N	106 41 20W	15.0	0.02	0.05	1.00G	1500	10 N	20	1.0N

Magnetic Fraction-continued

SAMPLE	Co(ppm)	Cr(ppm)	Cu(ppm)	La(ppm)	Mo(ppm)	Nb(ppm)	Ni(ppm)	Pb(ppm)	Sc(ppm)	Sn(ppm)
8HF033SM	20	700	5 L	150	5 N	20	20	15	15	10
8HF034SM	15	200	5 L	150	5 N	50	20	15	10	10 N
8HF035SM	15	300	5 L	200	5 N	20	20	20	15	10
8HF036SM	15	200	10	200	5 N	20	30	10	10	10
8HF036TM	15	300	5	150	5 N	10 L	50	20	10	10
8HF037SM	15	150	5	150	5 N	50	20	15	15	30
8HF037TM	10	200	5 L	100	5 N	100	20	15	20	30
8HF038SM	15	300	15	100	5 N	30	30	15	10	10
8HF038TM	15	150	5 L	100	5 N	50	20	10 L	10	15
8HF039SM	15	150	7	100	5 N	50	20	15	15	15
8HF039TM	20	150	20	100	5 N	50	20	10	15	20
8HF040SM	15	700	5	200	5 N	50	15	15	15	20
8HF040TM	15	300	7	150	5 N	50	30	10	20	20
8HF041TM	15	200	7	200	5 N	50	15	20	10	15
8HF042SM	15	300	5	150	5 N	50	20	15	15	20
8HF043SM	70	300	15	100	5 N	10 N	30	20	5	10
9HF101SM	20	500	10	70	5 N	30	20	10 L	10	10 N
9HF101TM	15	200	50	150	5 N	20	20	20	10	10 N
9HF102SM	20	500	20	70	5 N	100	20	15	10	30
9HF102TM	20	300	15	100	5 N	70	15	15	10	30
9HF103SM	30	700	15	200	5 N	70	20	15	10	20
9HF103TM	20	500	15	300	5 N	70	20	20	10	20
9HF104SM	20	700	10	150	5 N	50	20	10	10	20
9HF104TM	20	1000	10	100	5 N	50	20	10 L	10	30
9HF105SM	20	1000	10	200	5 N	70	20	10	10	30
9HF105TM	20	500	10	500	5 N	50	20	20	10	30
9HF106SM	15	300	10	150	5 N	70	15	30	7	30
9HF106TM	20	500	30	100	5 N	50	20	20	7	100
9HF107SM	10	150	20	200	5 N	70	15	20	7	20
9HF107TM	15	200	20	100	5 N	50	15	20	7	20
9HF108SM	20	300	10	70	5 N	20	20	10	7	10 N
9HF108TM	15	500	10	70	5 N	30	20	10 L	7	10
9HF109SM	15	200	20	20	5 N	20	15	10	7	10
9HF110SM	20	500	10	150	5 N	70	20	10	10	30
9HF111SM	20	1000	7	100	5 N	70	20	10 L	10	20
9HF111TM	20	1000	7	70	5 N	50	30	10 L	10	15
9HF112SM	20	1000	10	50	5 N	20 L	30	10	5	20
9HF112TM	30	1500	10	100	5 N	20	30	15	7	15
9HF113SM	20	1000	5	30	5 N	50	20	10 L	10	30
9HF113TM	15	300	5	20	5 N	30	20	10 L	10	20
9HF115SM	20	1500	7	150	5 N	10 N	50	10	10	20
9HF115TM	15	700	5	150	5 N	10 N	30	15	5	20
9HF116SM	15	300	10	200	5 N	70	20	10	15	20
9HF116TM	15	200	7	100	5 N	70	20	15	10	20

Magnetic Fraction-continued

SAMPLE	Sr(ppm)	Th(ppm)	V(ppm)	Y(ppm)	Zn(ppm)	Zr(ppm)
8HF033SM	100 N	100 N	200	10	300	50
8HF034SM	100 N	100 N	300	10	300	100
8HF035SM	100 N	100 N	300	10	300	50
8HF036SM	100 N	100 N	200	20	300	700
8HF036TM	100 N	100 N	300	10	300	200
8HF037SM	100 N	100 N	200	10	300	200
8HF037TM	100 N	100 N	300	10	200	200
8HF038SM	100 N	100 N	500	10	300	200
8HF038TM	100 N	100 N	200	10	300	300
8HF039SM	100 N	100 N	300	20	200	300
8HF039TM	100 N	100 N	300	10	200	70
8HF040SM	100 N	100 N	300	20	200	300
8HF040TM	100 N	100 N	200	20	200	300
8HF041TM	100 N	100 N	300	50	500	300
8HF042SM	100 N	100 N	300	10	200	200
8HF043SM	100 N	100 N	500	20	300	100
9HF101SM	100 N	100 N	300	50	200 L	200
9HF101TM	100 N	100 N	300	70	200 L	150
9HF102SM	100 N	100 N	300	50	300	200
9HF102TM	100 N	100 N	300	30	300	150
9HF103SM	100 N	100 N	300	50	200	100
9HF103TM	100 N	100 L	300	70	300	200
9HF104SM	100 N	100 N	300	30	300	150
9HF104TM	100 N	100 N	500	30	300	150
9HF105SM	100 N	100 N	500	50	200	500
9HF105TM	100 N	100 L	300	150	300	150
9HF106SM	100 N	100 N	300	30	200	150
9HF106TM	100 N	100 N	300	30	300	100
9HF107SM	100 N	100 N	200	50	200	200
9HF107TM	100 N	100 N	200	30	300	150
9HF108SM	100 N	100 N	300	50	200 L	150
9HF108TM	100 N	100 N	500	30	200	150
9HF109SM	100 N	100 N	200	30	200 L	200
9HF110SM	100 N	100 N	500	30	300	100
9HF111SM	100 N	100 N	500	30	300	150
9HF111TM	100 N	100 N	300	20	300	100
9HF112SM	100 N	100 N	300	20	700	100
9HF112TM	100 N	100 N	500	50	500	100
9HF113SM	100 N	100 N	300	20	300	100
9HF113TM	100 N	100 N	200	100	500	100
9HF115SM	100 N	100 N	300	100	500	200
9HF115TM	100 N	100 N	500	100	500	100
9HF116SM	100 N	100 N	300	50	500	100
9HF116TM	100 N	100 N	300	10	300	50

<200 mesh Fraction

SAMPLE	Lat.	Long.	Fe(%)	Mg(%)	Ca(%)	Ti(%)	Mn(ppm)	B(ppm)	Ba(ppm)	Be(ppm)
8HF004SF	39 07 34N	106 34 44E	2.0	0.70	0.70	0.30	1000	10	700	1.5
8HF004TF	39 07 34N	106 34 44E	3.0	0.50	0.50	0.30	700	15	500	3.0
8HF005SF	39 07 48N	106 36 50E	3.0	0.50	0.70	0.70	500	15	500	2.0
8HF005TF	39 07 48N	106 36 50E	2.0	0.30	0.50	0.50	500	10	500	1.5
8HF006SF	39 07 34N	106 36 47E	3.0	0.70	0.50	0.20	700	20	500	3.0
8HF006TF	39 07 34N	106 36 47E	3.0	0.50	0.30	0.50	500	15	700	2.0
8HF007SF	39 07 26N	106 34 26E	3.0	0.50	0.30	0.20	700	10	300	1.5
8HF007TF	39 07 26N	106 34 26E	3.0	0.50	0.50	0.30	700	10	500	2.0
8HF012SF	39 11 20N	106 41 10E	3.0	0.30	0.70	0.50	500	10 L	300	1.5
8HF012TF	39 11 20N	106 41 10E	3.0	0.50	0.50	0.20	700	10	500	2.0
8HF013SF	39 11 20N	106 41 06E	3.0	0.70	0.70	0.50	700	15	700	1.5
8HF013TF	39 11 20N	106 41 06E	5.0	0.70	0.70	0.70	700	10	700	1.5
8HF014SF	39 14 06N	106 35 38E	3.0	0.70	1.00	0.70	700	10	700	2.0
8HF014TF	39 14 06N	106 35 38E	3.0	0.70	1.00	0.30	700	10	700	2.0
8HF015SF	39 15 47N	106 38 20E	3.0	0.30	0.70	0.50	700	20	500	2.0
8HF015TF	39 15 47N	106 38 20E	2.0	0.30	0.30	0.20	500	15	500	1.5
8HF016SF	39 15 29N	106 37 23E	3.0	0.50	1.00	0.70	700	10	500	2.0
8HF016TF	39 15 29N	106 37 23E	2.0	0.50	0.70	0.20	1000	15	500	1.5
8HF017SF	39 17 31N	106 37 34E	2.0	0.50	0.70	0.20	1500	20	500	2.0
8HF017TF	39 17 31N	106 37 34E	3.0	0.30	0.70	0.30	1000	10	700	1.5
8HF018SF	39 17 28N	106 38 35E	3.0	0.30	0.50	0.50	500	30	700	2.0
8HF018TF	39 17 28N	106 38 35E	2.0	0.30	0.50	0.30	500	30	700	1.5
8HF019SF	39 17 28N	106 38 35E	2.0	0.50	0.70	0.70	500	20	700	2.0
8HF019TF	39 17 28N	106 38 35E	1.5	0.50	0.50	0.30	500	30	700	3.0
8HF020SF	39 17 31N	106 39 07E	2.0	0.70	0.50	0.30	700	30	500	2.0
8HF020TF	39 17 31N	106 39 07E	3.0	0.70	0.50	0.50	500	20	700	2.0
8HF021SF	39 18 50N	106 39 14E	3.0	0.30	0.50	0.70	300	10 L	500	1.0
8HF021TF	39 18 50N	106 39 14E	3.0	1.00	0.50	0.20	500	30	700	2.0
8HF023SF	39 19 55N	106 43 16E	3.0	0.70	0.70	0.30	700	100	500	1.5
8HF023TF	39 19 55N	106 43 16E	2.0	0.70	0.50	0.20	700	50	300	3.0
8HF024SF	39 20 28N	106 42 40E	2.0	0.50	1.00	0.50	700	150	500	2.0
8HF024TF	39 20 28N	106 42 40E	2.0	0.50	0.70	0.30	700	100	500	1.5
8HF025SF	39 20 56N	106 42 29E	3.0	0.70	1.50	0.50	500	70	500	1.5
8HF026SF	39 16 23N	106 34 37E	2.0	0.50	0.50	0.20	500	20	500	2.0
8HF026TF	39 16 23N	106 34 37E	3.0	0.70	1.00	0.50	500	20	700	2.0
8HF027SF	39 20 13N	106 39 54E	2.0	0.70	0.50	0.30	700	30	500	2.0
8HF027TF	39 20 13N	106 39 54E	3.0	0.50	0.50	0.50	500	50	700	2.0
8HF028SF	39 11 13N	106 30 47E	5.0	0.70	0.30	0.30	700	10	700	1.5
8HF028TF	39 11 13N	106 30 47E	3.0	1.00	0.30	0.20	700	15	300	1.5
8HF029SF	39 14 06N	106 31 19E	3.0	1.00	0.70	0.20	1000	10	500	3.0
8HF029TF	39 14 06N	106 31 19E	3.0	0.50	0.70	0.30	1000	10	500	1.0
8HF030SF	39 11 49N	106 32 31E	3.0	1.00	0.50	0.30	1000	20	700	3.0
8HF030TF	39 11 49N	106 32 31E	5.0	0.50	0.50	0.50	700	15	500	1.5
8HF031SF	39 11 56N	106 32 38E	3.0	1.00	0.50	0.30	500	20	500	3.0
8HF032SF	39 12 25N	106 32 31E	5.0	0.50	1.00	0.70	1000	20	700	2.0

<200 mesh Fraction-continued

SAMPLE	Co(ppm)	Cr(ppm)	Cu(ppm)	La(ppm)	Mo(ppm)	Nb(ppm)	Ni(ppm)	Pb(ppm)	Sc(ppm)	Sn(ppm)
8HF004SF	10	100	30	500	5 N	10 N	30	70	20	10 N
8HF004TF	10	100	20	300	5 N	10 N	30	70	10	10 N
8HF005SF	10	150	30	500	5 N	10 L	20	70	10	10 N
8HF005TF	10	100	20	300	5 N	10 N	15	70	10	10 N
8HF006SF	10	100	20	150	7	10 N	30	70	10	10 N
8HF006TF	15	150	20	200	5 N	10 N	20	70	15	10 N
8HF007SF	10	150	50	200	5 N	10 N	20	70	10	10 N
8HF007TF	15	150	70	200	5 N	10 N	20	70	15	10 N
8HF012SF	10	100	20	300	5 N	10 N	10	70	10	10 N
8HF012TF	10	70	20	200	7	10 N	15	70	5	10 L
8HF013SF	15	150	30	150	5 N	10 N	20	70	15	50
8HF013TF	15	150	30	300	5 N	10 L	20	70	15	10 N
8HF014SF	15	150	30	300	20	10 N	30	50	15	10 N
8HF014TF	10	150	30	150	5 N	10 N	20	50	10	10 N
8HF015SF	10	50	20	200	7	10 N	15	70	10	10 N
8HF015TF	10	50	15	150	5 N	10 N	7	70	5	15
8HF016SF	15	70	20	200	15	10 N	15	50	10	10 N
8HF016TF	10	50	15	150	5	10 N	5	70	5	15
8HF017SF	5	20	15	500	5 N	10 N	10	30	5	10 N
8HF017TF	10	50	20	150	10	10 N	20	70	5	10 N
8HF018SF	10	50	15	200	5	10 N	15	50	10	10 N
8HF018TF	5	50	15	300	5	10 N	15	50	10	10 N
8HF019SF	10	70	15	300	5 N	10 L	5	70	15	10 N
8HF019TF	5	50	15	200	5 N	10 N	15	50	10	20
8HF020SF	10	100	20	150	5 N	10 N	15	50	10	10
8HF020TF	15	150	30	150	5 L	10 N	30	50	15	10 N
8HF021SF	10	150	15	150	10	10 N	30	50	10	10 N
8HF021TF	10	150	20	150	5 N	10 N	20	70	10	10 N
8HF023SF	10	150	30	100	5 N	10 N	20	70	10	10 N
8HF023TF	5	70	20	100	5 N	10 N	20	50	10	10 N
8HF024SF	10	150	30	150	5 N	10 N	15	70	10	10
8HF024TF	10	100	20	150	10	10 N	30	70	10	10 N
8HF025SF	10	100	20	100	5 N	10 N	20	70	10	10 N
8HF026SF	10	50	30	150	5 N	10 N	15	50	5	10 N
8HF026TF	15	70	50	300	5 N	10 N	10	70	10	10
8HF027SF	10	100	20	150	5 N	10 N	20	50	5	10 N
8HF027TF	10	150	20	200	5 N	10 N	20	50	15	10 N
8HF028SF	10	200	30	300	5 N	10 N	15	70	20	10
8HF028TF	10	150	20	150	5 N	10 N	30	50	10	10
8HF029SF	10	150	20	300	5 N	10 N	20	200	10	10 L
8HF029TF	10	150	20	200	5	30	30	70	10	10 N
8HF030SF	10	150	20	200	5 N	10 N	20	50	15	20
8HF030TF	10	100	20	200	10	10 N	20	70	10	10 N
8HF031SF	5	100	20	150	5 N	10 N	15	50	10	10 L
8HF032SF	15	150	15	500	5 N	10 N	20	70	15	10 N

<200 mesh Fraction-continued

SAMPLE	Sr(ppm)	Th(ppm)	V(ppm)	Y(ppm)	Zn(ppm)	Zr(ppm)
8HF004SF	300	100	70	100	200 N	1000
8HF004TF	100	100 N	70	70	200 L	500
8HF005SF	200	100 N	100	150	200 N	1000 G
8HF005TF	200	100 N	70	70	200 N	700
8HF006SF	100	100 N	70	20	200 N	300
8HF006TF	200	100 N	100	70	200 N	700
8HF007SF	100	100 N	70	70	200 N	1000
8HF007TF	200	100 N	100	100	200 N	700
8HF012SF	200	150	70	70	200 N	1000 G
8HF012TF	100	100 N	70	20	200 N	300
8HF013SF	200	100 N	100	50	200 N	700
8HF013TF	200	100 N	100	100	200 N	1000
8HF014SF	500	100 N	150	50	200 N	1000 G
8HF014TF	300	100 N	100	50	200 N	700
8HF015SF	200	100 N	70	50	200 N	500
8HF015TF	100	100 N	70	20	200 N	700
8HF016SF	200	100 N	100	50	200 N	1000
8HF016TF	100	100 N	70	10	200 N	100
8HF017SF	100	100 N	70	10	200 N	100
8HF017TF	300	100 N	70	10	200 N	300
8HF018SF	100	100 N	70	50	200 N	1000
8HF018TF	100	100 N	70	150	200 N	1000 G
8HF019SF	200	150	70	100	200 N	1000 G
8HF019TF	100	100 N	70	50	200 N	700
8HF020SF	100	200	100	70	200 N	300
8HF020TF	200	100 N	100	50	200 N	500
8HF021SF	200	100 N	100	20	200 N	1000 G
8HF021TF	200	100 N	70	50	200 N	500
8HF023SF	100	100 N	70	20	200 N	200
8HF023TF	100	100 N	70	10	200 N	500
8HF024SF	100	100	150	50	200 N	1000
8HF024TF	100	100 N	70	20	200 N	300
8HF025SF	100	100 N	100	20	200 N	1000
8HF026SF	100	100 N	70	10	200 N	300
8HF026TF	300	100 N	150	70	200 N	1000 G
8HF027SF	100	100 N	70	10	200 N	300
8HF027TF	200	100 N	150	70	200 N	1000
8HF028SF	200	100 N	100	150	200 N	1000
8HF028TF	100	100 N	70	20	200 L	700
8HF029SF	200	100 N	100	100	200 N	1000
8HF029TF	200	100 N	100	70	200 N	700
8HF030SF	200	100 N	100	70	200 N	1000 G
8HF030TF	200	100 N	100	70	200 N	1000 G
8HF031SF	200	100 N	100	20	200 N	700
8HF032SF	200	200	150	100	200 N	1000 G

<200 mesh Fraction-continued

SAMPLE	Lat.	Long.	Fe(%)	Mg(%)	Ca(%)	Ti(%)	Mn(ppm)	B(ppm)	Ba(ppm)	Be(ppm)
8HF033SF	39 13 16N	106 32 13E	3.0	0.70	0.50	0.30	700	15	500	2.0
8HF034SF	39 13 34N	106 32 06E	3.0	0.30	0.30	0.20	1000	10	300	2.0
8HF035SF	39 13 52N	106 31 59E	5.0	0.50	1.00	0.70	700	20	700	1.5
8HF036SF	39 11 35N	106 34 41E	3.0	0.50	0.50	0.50	1000	10	700	1.5
8HF036TF	39 11 35N	106 34 41E	5.0	0.30	0.70	0.50	1000	15	700	1.5
8HF037SF	39 11 35N	106 34 44E	3.0	0.50	0.70	0.70	700	10	500	2.0
8HF037TF	39 11 35N	106 34 44E	2.0	0.70	0.50	0.30	500	20	300	2.0
8HF038SF	39 11 56N	106 34 44E	3.0	0.30	0.70	0.30	500	10	500	3.0
8HF038TF	39 11 56N	106 34 44E	1.5	0.50	0.50	0.20	500	15	300	2.0
8HF039SF	39 12 54N	106 34 52E	3.0	0.70	1.00	0.50	500	10	500	2.0
8HF039TF	39 12 54N	106 34 52E	3.0	0.50	0.70	0.30	500	20	700	1.5
8HF040SF	39 13 16N	106 34 52E	3.0	0.50	0.70	0.30	700	10	500	1.5
8HF040TF	39 13 16N	106 34 52E	3.0	0.70	0.50	0.30	500	15	500	2.0
8HF041SF	39 12 25N	106 44 53E	3.0	0.30	0.50	0.30	500	10	500	2.0
8HF041TF	39 12 25N	106 44 53E	3.0	0.70	0.50	0.30	500	20	500	5.0
8HF042SF	39 12 07N	106 43 52E	3.0	0.20	0.50	0.30	1000	20	500	1.5
8HF043SF	39 30 11N	106 44 38E	3.0	0.50	0.70	0.50	500	15	500	2.0
9HF101SF	39 14 38N	106 43 30E	3.0	1.00	0.70	0.50	300	15	500	2.0
9HF101TF	39 14 38N	106 43 30E	3.0	1.50	0.70	0.50	300	10	500	2.0
9HF102SF	39 08 20N	106 45 54E	5.0	1.00	1.50	0.70	500	10 L	700	1.0
9HF102TF	39 08 20N	106 45 54E	7.0	1.00	1.50	1.00	500	10 L	700	1.5
9HF103SF	39 07 59N	106 45 11E	5.0	0.50	1.00	0.70	300	10 L	500	1.5
9HF103TF	39 07 59N	106 45 11E	5.0	0.50	1.00	0.50	300	10 L	500	1.5
9HF104SF	39 07 26N	106 40 55E	5.0	0.70	0.70	0.50	700	10	500	2.0
9HF104TF	39 07 26N	106 40 55E	7.0	1.00	1.00	0.50	700	10	500	2.0
9HF105SF	39 07 05N	106 42 22E	7.0	1.00	1.00	1.00	500	10	500	1.0
9HF105TF	39 07 05N	106 42 22E	7.0	0.70	1.00	1.00	500	10	500	1.5
9HF106SF	39 09 04N	106 47 02E	3.0	0.50	0.70	0.50	200	10 L	300	1.5
9HF106TF	39 09 04N	106 47 02E	3.0	0.50	0.70	0.50	200	10 L	500	1.5
9HF107SF	39 09 43N	106 47 13E	5.0	0.50	0.70	0.50	500	10 L	300	1.5
9HF107TF	39 09 43N	106 47 13E	3.0	0.50	0.70	0.50	500	10 N	300	1.5
9HF108SF	39 14 38N	106 43 37E	3.0	0.70	0.70	0.30	500	15	500	2.0
9HF108TF	39 14 38N	106 43 37E	3.0	0.70	0.70	0.50	500	10	500	2.0
9HF110SF	39 11 46N	106 43 08E	5.0	0.70	1.00	1.00	700	10	500	1.5
9HF111SF	39 16 26N	106 33 40E	5.0	1.00	1.00	0.50	500	10	500	1.5
9HF111TF	39 16 26N	106 33 40E	5.0	0.70	0.70	0.50	500	10	500	2.0
9HF112SF	39 07 37N	106 38 06E	5.0	1.00	0.50	0.30	500	10	300	1.0
9HF112TF	39 07 37N	106 38 06E	5.0	1.50	0.50	0.50	500	10	500	1.0
9HF113SF	39 07 34N	106 39 00E	3.0	0.50	0.50	0.20	500	10	300	1.0
9HF113TF	39 07 34N	106 39 00E	3.0	0.50	0.70	0.30	500	10 L	300	1.0
9HF115SF	39 06 36N	106 35 35E	3.0	0.50	0.50	0.50	700	20	700	1.5
9HF115TF	39 06 36N	106 35 35E	3.0	0.70	1.00	0.70	500	10 L	700	2.0
9HF116SF	39 12 07N	106 41 20E	3.0	0.50	0.50	0.30	700	10	500	2.0
9HF116TF	39 12 07N	106 41 20E	3.0	0.70	1.00	0.70	500	30	500	3.0

<200 mesh Fraction-continued

SAMPLE	Co(ppm)	Cr(ppm)	Cu(ppm)	La(ppm)	Mo(ppm)	Nb(ppm)	Ni(ppm)	Pb(ppm)	Sc(ppm)	Sn(ppm)
8HF033SF	10	70	20	200	5 N	10 N	15	50	5	10 N
8HF034SF	5	20	15	150	5 N	10 N	10	20	5	10 N
8HF035SF	15	150	20	500	5 N	10 N	15	70	20	10 N
8HF036SF	10	100	20	200	5 N	10 N	15	70	10	10 N
8HF036TF	10	70	20	300	5 N	10 N	15	70	10	50
8HF037SF	15	70	30	150	5	10 N	10	50	10	10 N
8HF037TF	10	70	30	150	5 N	10 N	15	70	10	10 N
8HF038SF	10	50	15	200	5 N	10 N	5	70	10	10 N
8HF038TF	5	30	15	200	5 N	10 N	15	70	5 N	10 N
8HF039SF	10	70	30	150	5 N	10 N	10	50	10	10 N
8HF039TF	10	50	30	200	5 N	10 N	5 L	50	10	10 N
8HF040SF	10	70	30	300	5 N	10 N	10	50	10	10 N
8HF040TF	10	50	30	200	5 N	10 N	15	50	5	10 N
8HF041SF	10	50	15	200	5 N	10 N	10	50	5	10 N
8HF041TF	5	70	15	300	5	10 L	15	50	5	10
8HF042SF	10	70	20	200	5 N	10 N	10	30	10	10 N
8HF043SF	10	150	20	500	15	10 N	20	70	10	10 N
9HF101SF	10	50	15	100	5 N	20 L	20	20	10	10
9HF101TF	10	50	10	200	5 N	20 L	10	30	10	10
9HF102SF	15	50	20	500	5 N	30	15	50	10	10 N
9HF102TF	15	50	30	700	5 N	30	15	50	7	15
9HF103SF	10	50	15	300	5 N	20	10	30	7	10 N
9HF103TF	10	50	10	150	5 N	20	10	30	5	10 L
9HF104SF	15	70	50	500	7	20 L	100	20	10	20
9HF104TF	20	70	50	200	10	20 L	20	30	10	100
9HF105SF	20	150	50	700	5 N	20	50	50	10	15
9HF105TF	15	150	100	500	5 N	20	20	50	7	20
9HF106SF	10	20	10	500	5 N	20	7	70	5	10 L
9HF106TF	5	20	7	300	5 N	20	5	100	5	15
9HF107SF	7	50	10	300	5 N	20	5	50	7	10 L
9HF107TF	7	20	15	300	5 N	20	5	50	5	10
9HF108SF	10	50	10	150	5 N	20 L	15	30	7	10
9HF108TF	10	50	10	200	5 N	20 L	10	30	7	10 N
9HF110SF	15	50	20	500	5	30	7	50	7	10
9HF111SF	20	70	30	200	15	20	20	50	10	50
9HF111TF	15	70	20	150	10	20 L	15	30	10	10 N
9HF112SF	15	100	30	150	5 N	20 N	30	30	10	10
9HF112TF	15	100	30	100	5 N	20 L	30	30	15	15
9HF113SF	10	50	30	200	5 N	20 N	15	50	7	10 N
9HF113TF	10	70	20	150	5 N	20 N	20	50	7	20
9HF115SF	10	100	10 N	300	5 N	10 N	20	70	10	10 N
9HF115TF	10	100	20	500	7	10 L	15	70	10	10 N
9HF116SF	10	150	30	300	15	10 N	30	70	5	10 N
9HF116TF	10	100	30	500	5 L	10 L	30	70	10	10 L

<200 mesh Fraction-continued

SAMPLE	Sr(ppm)	Th(ppm)	V(ppm)	Y(ppm)	Zn(ppm)	Zr(ppm)
8HF033SF	100	100 N	100	20	200 N	300
8HF034SF	100 N	100 N	70	10	200 N	300
8HF035SF	300	100 N	150	100	200 N	1000 G
8HF036SF	200	100 N	100	70	200 N	1000
8HF036TF	300	100 N	70	150	200 L	1000 G
8HF037SF	300	100 N	100	20	200 N	700
8HF037TF	100	100 N	70	10	200 N	700
8HF038SF	200	100 N	70	20	200 N	700
8HF038TF	100	100 N	70	10	200 N	300
8HF039SF	200	100 N	100	20	200 N	1000
8HF039TF	100	100 N	70	50	200 N	1000
8HF040SF	200	100 N	70	70	200 N	1000
8HF040TF	200	100 N	70	50	200 N	300
8HF041SF	100	100 N	70	20	200 N	500
8HF041TF	100	100 N	70	50	200 N	500
8HF042SF	100	100 N	70	20	200 N	500
8HF043SF	100	100 N	100	200	200 N	1000 G
9HF101SF	150	100 N	70	50	200 N	1000
9HF101TF	150	100 N	70	70	200 N	1000
9HF102SF	150	100	100	150	200 N	1000 G
9HF102TF	200	100	100	150	200 N	1000 G
9HF103SF	200	100 L	100	100	200 N	1000 G
9HF103TF	200	100	70	70	200 N	1000 G
9HF104SF	150	100 N	70	70	200 N	700
9HF104TF	150	100 N	100	70	200 N	1000
9HF105SF	150	150	100	300	200 N	1000 G
9HF105TF	200	150	100	200	200 N	1000 G
9HF106SF	100	150	50	70	200 N	1000 G
9HF106TF	100	100	50	70	200 N	1000 G
9HF107SF	100	100	70	100	200 N	1000 G
9HF107TF	100	100	50	100	200 N	1000 G
9HF108SF	200	100 N	70	50	200 N	1000 G
9HF108TF	150	100 N	50	70	200 N	1000
9HF110SF	200	150	70	200	200 N	1000 G
9HF111SF	200	100 N	100	50	200 N	1000 G
9HF111TF	200	100 N	70	50	200 N	500
9HF112SF	150	100 N	70	200	200 N	1000
9HF112TF	150	100 N	70	50	200 L	300
9HF113SF	100	100 N	50	100	200 N	300
9HF113TF	150	100 N	50	100	200 N	700
9HF115SF	200	100 N	100	70	200 N	700
9HF115TF	300	100 N	100	70	200 N	1000 G
9HF116SF	200	100 N	70	70	200 N	500
9HF116TF	300	100 N	100	100	200 N	1000 G

Table 4.--Statistical summaries of various fractions of stream-sediment samples

These pages are output from the computer program a470, part of the STATPAC system of the U.S. Geological Survey (VanTrump and Miesch, 1977).

The frequency distributions and histograms on the following pages are on logarithmic scales, and employ the same class intervals as used in reporting 6-step semiquantitative spectrographic analyses. The statistics given below the histograms are derived only from data values within the ranges of analytical determination, and are, therefore, biased if data values that are qualified with N, L, or G are present. See the end of each section for statistical estimates that are unbiased in this regard. The geometric mean is an estimate of "central tendency," or of a characteristic value, of a frequency distribution that is approximately symmetrical on a log scale, and is therefore useful for characterizing many geochemical distributions. The geometric mean is not an estimate of geochemical abundance, and is of no value in estimating total amounts of elements present.

TITLE
NMag Fraction of Seds

THE MAX AND MIN 0.15000E+02 FOR VARIABLE NO. 15 ARE THE SAME. THEREFORE THIS VARIABLE WILL BE SKIPPED..

A470 GEOCHEMICAL SUMMARY - U S G S STATPAC (01/23/78)

TITLE
NMag Fraction of Seds

FREQUENCY TABLE FOR COLUMN 3 (sfe%)

LIMITS LOWER - UPPER		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
3.8E-02 -	5.6E-02	0	0	0.00	100.00
5.6E-02 -	8.3E-02	0	0	0.00	100.00
8.3E-02 -	1.2E-01	0	0	0.00	100.00
1.2E-01 -	1.8E-01	0	0	0.00	100.00
1.8E-01 -	2.6E-01	0	0	0.00	100.00
2.6E-01 -	3.8E-01	0	0	0.00	100.00
3.8E-01 -	5.6E-01	0	0	0.00	100.00
5.6E-01 -	8.3E-01	0	0	0.00	100.00
8.3E-01 -	1.2E+00	0	0	0.00	100.00
1.2E+00 -	1.8E+00	0	0	0.00	100.00
1.8E+00 -	2.6E+00	0	0	0.00	100.00
2.6E+00 -	3.8E+00	2	2	2.25	100.00
3.8E+00 -	5.6E+00	3	5	3.37	97.75
5.6E+00 -	8.3E+00	8	13	8.99	94.38
8.3E+00 -	1.2E+01	26	39	29.21	85.39
1.2E+01 -	1.8E+01	37	76	41.57	56.18
1.8E+01 -	2.6E+01	13	89	14.61	14.61

HISTOGRAM FOR COLUMN 3 (sfe%)

```
3.0E+00 XX
5.0E+00 XXX
7.0E+00 XXXXXXXXX
1.0E+01 XXXXXXXXXXXXXXXXXXXXXXXXXXX
1.5E+01 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
2.0E+01 XXXXXXXXXXXXXXX
```

N	L	H	B	T	G	ANALYTICAL VALUES
0	0	0	0	0	0	89
0.00	0.00			0.00	0.00	

MAXIMUM = 2.00000E+01
MINIMUM = 3.00000E+00
GEOMETRIC MEAN = 1.20602E+01
GEOMETRIC DEVIATION = 1.50203E+00

A477 GEOCHEMICAL SUMMARY - U S G S STATPAC (01/23/78)

TITLE
Nmag Fraction of Seds

FREQUENCY TABLE FOR COLUMN 4 (smag%)

LIMITS LOWER - UPPER		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
1.8E-02 -	2.6E-02	0	0	0.00	100.00
2.6E-02 -	3.8E-02	1	1	1.12	100.00
3.8E-02 -	5.6E-02	8	9	8.99	98.88
5.6E-02 -	8.3E-02	6	15	6.74	89.89
8.3E-02 -	1.2E-01	17	32	19.10	83.15
1.2E-01 -	1.8E-01	14	46	15.73	64.04
1.8E-01 -	2.6E-01	17	63	19.10	48.31
2.6E-01 -	3.8E-01	14	77	15.73	29.21
3.8E-01 -	5.6E-01	7	84	7.87	13.48
5.6E-01 -	8.3E-01	2	86	2.25	5.62
8.3E-01 -	1.2E+00	3	89	3.37	3.37

HISTOGRAM FOR COLUMN 4 (smg%)

```
3.0E-02 X
5.0E-02 XXXXXXXXX
7.0E-02 XXXXXXX
1.0E-01 XXXXXXXXXXXXXXXXXX
1.5E-01 XXXXXXXXXXXXXXX
2.0E-01 XXXXXXXXXXXXXXXXXX
3.0E-01 XXXXXXXXXXXXXXX
5.0E-01 XXXXXXXX
7.0E-01 XX
1.0E+00 XXX
```

N	L	H	B	T	G	ANALYTICAL VALUES
0	0	0	0	0	0	89
0.00	0.00			0.00	0.00	

MAXIMUM = 1.00000E+00
MINIMUM = 3.00000E-02
GEOMETRIC MEAN = 1.67707E-01
GEOMETRIC DEVIATION = 2.14486E+00

A470 GEOCHEMICAL SUMMARY - U S G S STATPAC (01/23/78)

TITLE
Nmag Fraction of Seds

FREQUENCY TABLE FOR COLUMN 5 (sca%)

LIMITS LOWER - UPPER		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
3.8E-02 -	5.6E-02	7	7	7.87	100.00
5.6E-02 -	8.3E-02	9	16	10.11	92.13
8.3E-02 -	1.2E-01	20	36	22.47	82.02
1.2E-01 -	1.8E-01	11	47	12.36	59.55
1.8E-01 -	2.6E-01	8	55	8.99	47.19
2.6E-01 -	3.8E-01	14	69	15.73	38.20
3.8E-01 -	5.6E-01	10	79	11.24	22.47
5.6E-01 -	8.3E-01	7	86	7.87	11.24
8.3E-01 -	1.2E+00	3	89	3.37	3.37

HISTOGRAM FOR COLUMN 5 (sca%)

```
5.0E-02 XXXXXXXX
7.0E-02 XXXXXXXXXX
1.0E-01 XXXXXXXXXXXXXXXXXXXXX
1.5E-01 XXXXXXXXXXXX
2.0E-01 XXXXXXXXX
3.0E-01 XXXXXXXXXXXXXXXX
5.0E-01 XXXXXXXXXXX
7.0E-01 XXXXXXXX
1.0E+00 XXX
```

N	L	H	B	T	G	ANALYTICAL VALUES
0	0	0	0	0	0	89
0.00	0.00			0.00	0.00	

MAXIMUM = 1.00000E+00
MINIMUM = 5.00000E-02
GEOMETRIC MEAN = 1.83336E-01
GEOMETRIC DEVIATION = 2.32544E+00

A47] GEOCHEMICAL SUMMARY - U S G S STATPAC (01/23/78)

TITLE
NMag Fraction of Seds

FREQUENCY TABLE FOR COLUMN 6 (sti%)

LIMITS LOWER	- UPPER	FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
1.8E-03 -	2.6E-03	0	0	0.00	100.00
2.6E-03 -	3.8E-03	0	0	0.00	100.00
3.8E-03 -	5.6E-03	0	0	0.00	100.00
5.6E-03 -	8.3E-03	0	0	0.00	100.00
8.3E-03 -	1.2E-02	0	0	0.00	100.00
1.2E-02 -	1.8E-02	0	0	0.00	100.00
1.8E-02 -	2.6E-02	0	0	0.00	100.00
2.6E-02 -	3.8E-02	0	0	0.00	100.00
3.8E-02 -	5.6E-02	0	0	0.00	100.00
5.6E-02 -	8.3E-02	0	0	0.00	100.00
8.3E-02 -	1.2E-01	0	0	0.00	100.00
1.2E-01 -	1.8E-01	1	1	1.12	100.00
1.8E-01 -	2.6E-01	4	5	4.49	98.88
2.6E-01 -	3.8E-01	4	9	4.49	94.38
3.8E-01 -	5.6E-01	3	12	3.37	89.89
5.6E-01 -	8.3E-01	6	18	6.74	86.52
8.3E-01 -	1.2E+00	3	21	3.37	79.78

HISTOGRAM FOR COLUMN 6 (sti%)

```
1.5E-01 X
2.0E-01 XXXX
3.0E-01 XXXX
5.0E-01 XXX
7.0E-01 XXXXXXX
1.0E+00 XXX
```

N	L	H	B	T	G	ANALYTICAL VALUES
0	0	0	0	0	68	21
0.00	0.00			0.00	76.40	

MAXIMUM = 1.00000E+00
MINIMUM = 1.50000E-01
GEOMETRIC MEAN = 4.37292E-01
GEOMETRIC DEVIATION = 1.85196E+00

A470 GEOCHEMICAL SUMMARY - U S G S STATPAC (01/23/78)

TITLE
NMag Fraction of Seds

FREQUENCY TABLE FOR COLUMN 7 (smn)

LIMITS LOWER - UPPER		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
8.3E+00 -	1.2E+01	0	0	0.00	100.00
1.2E+01 -	1.8E+01	0	0	0.00	100.00
1.8E+01 -	2.6E+01	0	0	0.00	100.00
2.6E+01 -	3.8E+01	0	0	0.00	100.00
3.8E+01 -	5.6E+01	0	0	0.00	100.00
5.6E+01 -	8.3E+01	0	0	0.00	100.00
8.3E+01 -	1.2E+02	0	0	0.00	100.00
1.2E+02 -	1.8E+02	0	0	0.00	100.00
1.8E+02 -	2.6E+02	0	0	0.00	100.00
2.6E+02 -	3.8E+02	5	5	5.62	100.00
3.8E+02 -	5.6E+02	5	10	5.62	94.38
5.6E+02 -	8.3E+02	9	19	10.11	88.76
8.3E+02 -	1.2E+03	31	50	34.83	78.65
1.2E+03 -	1.8E+03	19	69	21.35	43.82
1.8E+03 -	2.6E+03	10	79	11.24	22.47
2.6E+03 -	3.8E+03	9	88	10.11	11.24
3.8E+03 -	5.6E+03	1	89	1.12	1.12

HISTOGRAM FOR COLUMN 7 (smn)

```
3.0E+02 XXXXXX
5.0E+02 XXXXXX
7.0E+02 XXXXXXXXXX
1.0E+03 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
1.5E+03 XXXXXXXXXXXXXXXXXXX
2.0E+03 XXXXXXXXXX
3.0E+03 XXXXXXXXXX
5.0E+03 X
```

N	L	H	S	T	G	ANALYTICAL VALUES
0	0	0	0	0	0	89
0.00	0.00			0.00	0.00	

MAXIMUM = 5.00000E+03
MINIMUM = 3.00000E+02
GEOMETRIC MEAN = 1.16297E+03
GEOMETRIC DEVIATION = 1.79554E+00

A470 GEOCHEMICAL SUMMARY - U S G S STATPAC (01/23/78)

TITLE
NMag Fraction of Seds

FREQUENCY TABLE FOR COLUMN 8 (sb)

LIMITS LOWER - UPPER		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
8.3E+00 -	1.2E+01	10	10	11.24	24.72
1.2E+01 -	1.8E+01	7	17	7.87	13.48
1.8E+01 -	2.6E+01	3	20	3.37	5.62
2.6E+01 -	3.8E+01	2	22	2.25	2.25

HISTOGRAM FOR COLUMN 8 (sb)

```
1.0E+01 XXXXXXXXXXX
1.5E+01 XXXXXXXX
2.0E+01 XXX
3.0E+01 XX
```

N	L	H	B	T	G	ANALYTICAL VALUES
65	2	0	0	0	0	22
73.03	2.25			0.00	0.00	

MAXIMUM = 3.00000E+01
MINIMUM = 1.00000E+01
GEOMETRIC MEAN = 1.38183E+01
GEOMETRIC DEVIATION = 1.43176E+00

A470 GEOCHEMICAL SUMMARY - U S G S STATPAC (01/23/78)

TITLE
NMag Fraction of Seds

FREQUENCY TABLE FOR COLUMN 9 (sba)

LIMITS LOWER - UPPER		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
1.8E+01 -	2.6E+01	3	3	3.37	100.00
2.6E+01 -	3.8E+01	1	4	1.12	96.63
3.8E+01 -	5.6E+01	8	12	8.99	95.51
5.6E+01 -	8.3E+01	17	29	19.10	86.52
8.3E+01 -	1.2E+02	17	46	19.10	67.42
1.2E+02 -	1.8E+02	9	55	10.11	48.31
1.8E+02 -	2.6E+02	14	69	15.73	38.20
2.6E+02 -	3.8E+02	13	82	14.61	22.47
3.8E+02 -	5.6E+02	6	88	6.74	7.87
5.6E+02 -	8.3E+02	1	89	1.12	1.12

HISTOGRAM FOR COLUMN 9 (sba)

```
2.0E+01 XXX
3.0E+01 X
5.0E+01 XXXXXXXXX
7.0E+01 XXXXXXXXXXXXXXXXXX
1.0E+02 XXXXXXXXXXXXXXXXXX
1.5E+02 XXXXXXXXXX
2.0E+02 XXXXXXXXXXXXXXX
3.0E+02 XXXXXXXXXXXXXX
5.0E+02 XXXXXXX
7.0E+02 X
```

N	L	H	B	T	G	ANALYTICAL VALUES
0	0	0	0	0	0	89
0.00	0.00			0.00	0.00	

MAXIMUM = 7.00000E+02
MINIMUM = 2.00000E+01
GEOMETRIC MEAN = 1.27464E+02
GEOMETRIC DEVIATION = 2.17625E+00

A470 GEOCHEMICAL SUMMARY - U S G S STATPAC (01/23/78)

TITLE
NMag Fraction of Seds

FREQUENCY TABLE FOR COLUMN 10 (sbe)

LIMITS LOWER - UPPER	FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
8.3E-01 - 1.2E+00	17	17	19.10	40.45
1.2E+00 - 1.8E+00	6	23	6.74	21.35
1.8E+00 - 2.6E+00	10	33	11.24	14.61
2.6E+00 - 3.8E+00	2	35	2.25	3.37
3.8E+00 - 5.6E+00	1	36	1.12	1.12

HISTOGRAM FOR COLUMN 10 (sbe)

```
1.0E+00 XXXXXXXXXXXXXXXXXX
1.5E+00 XXXXXXX
2.0E+00 XXXXXXXXXXX
3.0E+00 XX
5.0E+00 X
```

N	L	H	B	T	G	ANALYTICAL VALUES
39	14	0	0	0	0	36
43.82	15.73			0.00	0.00	

MAXIMUM = 5.00000E+00
MINIMUM = 1.00000E+00
GEOMETRIC MEAN = 1.44175E+00
GEOMETRIC DEVIATION = 1.51169E+00

A470 GEOCHEMICAL SUMMARY - U S G S STATPAC (01/23/78)

TITLE
NMag Fraction of Seds

FREQUENCY TABLE FOR COLUMN 11 (sco)

LIMITS LOWER - UPPER		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
3.8E+00 -	5.6E+00	2	2	2.25	100.00
5.6E+00 -	8.3E+00	0	2	0.00	97.75
8.3E+00 -	1.2E+01	20	22	22.47	97.75
1.2E+01 -	1.8E+01	35	57	39.33	75.28
1.8E+01 -	2.6E+01	19	76	21.35	35.96
2.6E+01 -	3.8E+01	4	80	4.49	14.61
3.8E+01 -	5.6E+01	7	87	7.87	10.11
5.6E+01 -	8.3E+01	2	89	2.25	2.25

HISTOGRAM FOR COLUMN 11 (sco)

```
5.0E+00 XX
7.0E+00
1.0E+01 XXXXXXXXXXXXXXXXXXXX
1.5E+01 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
2.0E+01 XXXXXXXXXXXXXXXXXXX
3.0E+01 XXXX
5.0E+01 XXXXXXXX
7.0E+01 XX
```

N	L	H	B	T	G	ANALYTICAL VALUES
0	0	0	0	0	0	89
0.00	0.00			0.00	0.00	

MAXIMUM = 7.000000E+01
MINIMUM = 5.000000E+00
GEOMETRIC MEAN = 1.66786E+01
GEOMETRIC DEVIATION = 1.66898E+00

A470 GEOCHEMICAL SUMMARY - U S G S STATPAC (01/23/78)

TITLE
NMag Fraction of Seds

FREQUENCY TABLE FOR COLUMN 12 (scr)

LIMITS LOWER - UPPER		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
8.3E+00 -	1.2E+01	0	0	0.00	100.00
1.2E+01 -	1.8E+01	0	0	0.00	100.00
1.8E+01 -	2.6E+01	0	0	0.00	100.00
2.6E+01 -	3.8E+01	0	0	0.00	100.00
3.8E+01 -	5.6E+01	0	0	0.00	100.00
5.6E+01 -	8.3E+01	0	0	0.00	100.00
8.3E+01 -	1.2E+02	2	2	2.25	100.00
1.2E+02 -	1.8E+02	31	33	34.83	97.75
1.8E+02 -	2.6E+02	34	67	38.20	62.92
2.6E+02 -	3.8E+02	13	80	14.61	24.72
3.8E+02 -	5.6E+02	1	81	1.12	10.11
5.6E+02 -	8.3E+02	2	83	2.25	8.99
8.3E+02 -	1.2E+03	3	86	3.37	6.74
1.2E+03 -	1.8E+03	3	89	3.37	3.37

HISTOGRAM FOR COLUMN 12 (scr)

```
1.0E+02 XX
1.5E+02 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
2.0E+02 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
3.0E+02 XXXXXXXXXXXXXXX
5.0E+02 X
7.0E+02 XX
1.0E+03 XXX
1.5E+03 XXX
```

N	L	H	B	T	G	ANALYTICAL VALUES
0	0	0	0	0	0	89
0.00	0.00			0.00	0.00	

MAXIMUM = 1.50000E+03
MINIMUM = 1.00000E+02
GEOMETRIC MEAN = 2.21934E+02
GEOMETRIC DEVIATION = 1.76893E+00

A470 GEOCHEMICAL SUMMARY - U S G S STATPAC (01/23/78)

TITLE
NMag Fraction of Seds

FREQUENCY TABLE FOR COLUMN 13 (scu)

LIMITS LOWER - UPPER		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
3.8E+00 -	5.6E+00	11	11	12.36	95.51
5.6E+00 -	8.3E+00	17	28	19.10	83.15
8.3E+00 -	1.2E+01	30	58	33.71	64.04
1.2E+01 -	1.8E+01	14	72	15.73	30.34
1.8E+01 -	2.6E+01	7	79	7.87	14.61
2.6E+01 -	3.8E+01	6	85	6.74	6.74

HISTOGRAM FOR COLUMN 13 (scu)

```
5.0E+00 XXXXXXXXXXX
7.0E+00 XXXXXXXXXXXXXXXXXX
1.0E+01 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
1.5E+01 XXXXXXXXXXXXXXX
2.0E+01 XXXXXXXX
3.0E+01 XXXXXXX
```

N	L	H	B	T	G	ANALYTICAL VALUES
0	4	0	0	0	0	85
0.00	4.49			0.00	0.00	

MAXIMUM = 3.00000E+01
MINIMUM = 5.00000E+00
GEOMETRIC MEAN = 1.04120E+01
GEOMETRIC DEVIATION = 1.63325E+00

A470 GEOCHEMICAL SUMMARY - U S G S STATPAC (01/23/78)

TITLE
NMag Fraction of Seds

FREQUENCY TABLE FOR COLUMN 14 (sla)

LIMITS LOWER	- UPPER	FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
1.8E+01 -	2.6E+01	0	0	0.00	100.00
2.6E+01 -	3.8E+01	0	0	0.00	100.00
3.8E+01 -	5.6E+01	0	0	0.00	100.00
5.6E+01 -	8.3E+01	0	0	0.00	100.00
8.3E+01 -	1.2E+02	0	0	0.00	100.00
1.2E+02 -	1.8E+02	0	0	0.00	100.00
1.8E+02 -	2.6E+02	0	0	0.00	100.00
2.6E+02 -	3.8E+02	6	6	6.74	100.00
3.8E+02 -	5.6E+02	16	22	17.98	93.26
5.6E+02 -	8.3E+02	23	45	25.84	75.28
8.3E+02 -	1.2E+03	10	55	11.24	49.44

HISTOGRAM FOR COLUMN 14 (sla)

```
3.0E+02 XXXXXXX
5.0E+02 XXXXXXXXXXXXXXXXX
7.0E+02 XXXXXXXXXXXXXXXXXXXXXXXXX
1.0E+03 XXXXXXXXXXX
```

N	L	H	B	T	G	ANALYTICAL VALUES
0	0	0	0	0	34	55
0.00	0.00			0.00	38.20	

MAXIMUM = 1.00000E+03
MINIMUM = 3.00000E+02
GEOMETRIC MEAN = 6.17461E+02
GEOMETRIC DEVIATION = 1.41568E+00

A470 GEOCHEMICAL SUMMARY - U S G S STATPAC (01/23/78)

TITLE
NMag Fraction of Seds

FREQUENCY TABLE FOR COLUMN 16 (snb)

LIMITS LOWER - UPPER		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
1.8E+01 -	2.6E+01	19	19	21.35	86.52
2.6E+01 -	3.8E+01	17	36	19.10	65.17
3.8E+01 -	5.6E+01	30	66	33.71	46.07
5.6E+01 -	8.3E+01	9	75	10.11	12.36
8.3E+01 -	1.2E+02	2	77	2.25	2.25

HISTOGRAM FOR COLUMN 16 (snb)

```
       2.0E+01 XXXXXXXXXXXXXXXXXXX
       3.0E+01 XXXXXXXXXXXXXXXXXX
       5.0E+01 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
       7.0E+01 XXXXXXXXXX
       1.0E+02 XX
```

N	L	H	B	T	G	ANALYTICAL VALUES
4	8	0	0	0	0	77
4.49	8.99			0.00	0.00	

MAXIMUM = 1.00000E+02
MINIMUM = 2.00000E+01
GEOMETRIC MEAN = 3.77308E+01
GEOMETRIC DEVIATION = 1.58821E+00

A470 GEOCHEMICAL SUMMARY - U S G S STATPAC (01/23/78)

TITLE
NMag Fraction of Seds

FREQUENCY TABLE FOR COLUMN 17 (sni)

LIMITS LOWER - UPPER		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
3.8E+00 -	5.6E+00	23	23	25.84	86.52
5.6E+00 -	8.3E+00	5	28	5.62	60.67
8.3E+00 -	1.2E+01	20	48	22.47	55.06
1.2E+01 -	1.8E+01	13	61	14.61	32.58
1.8E+01 -	2.6E+01	7	68	7.87	17.98
2.6E+01 -	3.8E+01	7	75	7.87	10.11
3.8E+01 -	5.6E+01	2	77	2.25	2.25

HISTOGRAM FOR COLUMN 17 (sni)

```
5.0E+00 XXXXXXXXXXXXXXXXXXXXXXXX
7.0E+00 XXXXXX
1.0E+01 XXXXXXXXXXXXXXXXXXXXX
1.5E+01 XXXXXXXXXXXXXX
2.0E+01 XXXXXXXX
3.0E+01 XXXXXXXX
5.0E+01 XX
```

N	L	H	B	T	G	ANALYTICAL VALUES
3	9	0	0	0	0	77
3.37	10.11			0.00	0.00	

MAXIMUM = 5.000000E+01
MINIMUM = 5.000000E+00
GEOMETRIC MEAN = 1.043888E+01
GEOMETRIC DEVIATION = 1.89759E+00

A470 GEOCHEMICAL SUMMARY - U S G S STATPAC (01/23/78)

TITLE
Mag Fraction of Seds

FREQUENCY TABLE FOR COLUMN 18 (spb)

LIMITS LOWER - UPPER		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
8.3E+00 -	1.2E+01	0	0	0.00	98.88
1.2E+01 -	1.8E+01	0	0	0.00	98.88
1.8E+01 -	2.6E+01	0	0	0.00	98.88
2.6E+01 -	3.8E+01	2	2	2.25	98.88
3.8E+01 -	5.6E+01	7	9	7.87	96.63
5.6E+01 -	8.3E+01	37	46	41.57	88.76
8.3E+01 -	1.2E+02	23	69	25.84	47.19
1.2E+02 -	1.8E+02	16	85	17.98	21.35
1.8E+02 -	2.6E+02	2	87	2.25	3.37
2.6E+02 -	3.8E+02	0	87	0.00	1.12
3.8E+02 -	5.6E+02	1	88	1.12	1.12

HISTOGRAM FOR COLUMN 18 (spb)

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

N	L	H	B	T	G	ANALYTICAL VALUES
1	0	0	0	0	0	88
1.12	0.00			0.00	0.00	

MAXIMUM = 5.00000E+02
MINIMUM = 3.00000E+01
GEOMETRIC MEAN = 8.82760E+01
GEOMETRIC DEVIATION = 1.53099E+00

A470 GEOCHEMICAL SUMMARY - U S G S STATPAC (01/23/78)

TITLE
NMag Fraction of Seds

FREQUENCY TABLE FOR COLUMN 19 (ssc)

LIMITS LOWER - UPPER		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
3.8E+00 -	5.6E+00	3	3	3.37	100.00
5.6E+00 -	8.3E+00	3	6	3.37	96.63
8.3E+00 -	1.2E+01	23	29	25.84	93.26
1.2E+01 -	1.8E+01	20	49	22.47	67.42
1.8E+01 -	2.6E+01	20	69	22.47	44.94
2.6E+01 -	3.8E+01	9	78	10.11	22.47
3.8E+01 -	5.6E+01	2	80	2.25	12.36
5.6E+01 -	8.3E+01	9	89	10.11	10.11

HISTOGRAM FOR COLUMN 19 (ssc)

```
   5.0E+00 XXX
   7.0E+00 XXX
   1.0E+01 XXXXXXXXXXXXXXXXXXXXXXXX
   1.5E+01 XXXXXXXXXXXXXXXXXXXXX
   2.0E+01 XXXXXXXXXXXXXXXXXXXXX
   3.0E+01 XXXXXXXXXX
   5.0E+01 XX
   7.0E+01 XXXXXXXXXX
```

N	L	H	B	T	G	ANALYTICAL VALUES
0	0	0	0	0	0	89
0.00	0.00			0.00	0.00	

MAXIMUM = 7.00000E+01
MINIMUM = 5.00000E+00
GEOMETRIC MEAN = 1.74287E+01
GEOMETRIC DEVIATION = 1.91881E+00

A470 GEOCHEMICAL SUMMARY - U S G S STATPAC (01/23/78)

TITLE
NMag Fraction of Seds

FREQUENCY TABLE FOR COLUMN 20 (ssn)

LIMITS LOWER - UPPER		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
8.3E+00 -	1.2E+01	5	5	5.62	93.26
1.2E+01 -	1.8E+01	5	10	5.62	87.64
1.8E+01 -	2.6E+01	11	21	12.36	82.02
2.6E+01 -	3.8E+01	28	49	31.46	69.66
3.8E+01 -	5.6E+01	29	78	32.58	38.20
5.6E+01 -	8.3E+01	3	81	3.37	5.62
8.3E+01 -	1.2E+02	0	81	0.00	2.25
1.2E+02 -	1.8E+02	0	81	0.00	2.25
1.8E+02 -	2.6E+02	0	81	0.00	2.25
2.6E+02 -	3.8E+02	2	83	2.25	2.25

HISTOGRAM FOR COLUMN 20 (ssn)

```
1.0E+01 XXXXXX
1.5E+01 XXXXXX
2.0E+01 XXXXXXXXXXX
3.0E+01 XXXXXXXXXXXXXXXXXXXXXXXXXXXX
5.0E+01 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
7.0E+01 XXX
1.0E+02
1.5E+02
2.0E+02
3.0E+02 XX
```

N	L	H	B	T	G	ANALYTICAL VALUES
6	0	0	0	0	0	83
6.74	0.00			0.00	0.00	

MAXIMUM = 3.00000E+02
MINIMUM = 1.00000E+01
GEOMETRIC MEAN = 3.32520E+01
GEOMETRIC DEVIATION = 1.82529E+00

A470 GEOCHEMICAL SUMMARY - U S G S STATPAC (01/23/78)

TITLE
NMag Fraction of Seds

FREQUENCY TABLE FOR COLUMN 21 (ssr)

LIMITS LOWER - UPPER		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
8.3E+01 -	1.2E+02	17	17	19.10	30.34
1.2E+02 -	1.8E+02	2	19	2.25	11.24
1.8E+02 -	2.6E+02	2	21	2.25	8.99
2.6E+02 -	3.8E+02	3	24	3.37	6.74
3.8E+02 -	5.6E+02	2	26	2.25	3.37
5.6E+02 -	8.3E+02	1	27	1.12	1.12

HISTOGRAM FOR COLUMN 21 (ssr)

```
1.0E+02 XXXXXXXXXXXXXXXXXX
1.5E+02 XX
2.0E+02 XX
3.0E+02 XXX
5.0E+02 XX
7.0E+02 X
```

N	L	H	B	T	G	ANALYTICAL VALUES
48	14	0	0	0	0	27
53.93	15.73			0.00	0.00	

MAXIMUM = 7.00000E+02
MINIMUM = 1.00000E+02
GEOMETRIC MEAN = 1.48399E+02
GEOMETRIC DEVIATION = 1.84020E+00

A470 GEOCHEMICAL SUMMARY - U S G S STATPAC (01/23/78)

TITLE
NMag Fraction of Seds

FREQUENCY TABLE FOR COLUMN 22 (sth)

LIMITS LOWER - UPPER		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
8.3E+01 -	1.2E+02	6	6	6.74	91.01
1.2E+02 -	1.8E+02	2	8	2.25	84.27
1.8E+02 -	2.6E+02	6	14	6.74	82.02
2.6E+02 -	3.8E+02	14	28	15.73	75.28
3.8E+02 -	5.6E+02	29	57	32.58	59.55
5.6E+02 -	8.3E+02	6	63	6.74	26.97
8.3E+02 -	1.2E+03	11	74	12.36	20.22
1.2E+03 -	1.8E+03	5	79	5.62	7.87
1.8E+03 -	2.6E+03	2	81	2.25	2.25

HISTOGRAM FOR COLUMN 22 (sth)

```
      1.0E+02 XXXXXXX
      1.5E+02 XX
      2.0E+02 XXXXXXX
      3.0E+02 XXXXXXXXXXXXXXXX
      5.0E+02 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
      7.0E+02 XXXXXXX
      1.0E+03 XXXXXXXXXXXX
      1.5E+03 XXXXXX
      2.0E+03 XX
```

N	L	H	B	T	G	ANALYTICAL VALUES
8	0	0	0	0	0	81
8.99	0.00			0.00	0.00	

MAXIMUM = 2.00000E+03
MINIMUM = 1.00000E+02
GEOMETRIC MEAN = 4.59711E+02
GEOMETRIC DEVIATION = 2.07099E+00

A470 GEOCHEMICAL SUMMARY - U S G S STATPAC (01/23/78)

TITLE
NMag Fraction of Seds

FREQUENCY TABLE FOR COLUMN 23 (sv)

LIMITS LOWER	- UPPER	FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
8.3E+00 -	1.2E+01	0	0	0.00	100.00
1.2E+01 -	1.8E+01	0	0	0.00	100.00
1.8E+01 -	2.6E+01	0	0	0.00	100.00
2.6E+01 -	3.8E+01	0	0	0.00	100.00
3.8E+01 -	5.6E+01	1	1	1.12	100.00
5.6E+01 -	8.3E+01	2	3	2.25	98.88
8.3E+01 -	1.2E+02	21	24	23.60	96.63
1.2E+02 -	1.8E+02	40	64	44.94	73.03
1.8E+02 -	2.6E+02	13	77	14.61	28.09
2.6E+02 -	3.8E+02	12	89	13.48	13.48

HISTOGRAM FOR COLUMN 23 (sv)

```
5.0E+01 X
7.0E+01 XX
1.0E+02 XXXXXXXXXXXXXXXXXXXXXX
1.5E+02 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
2.0E+02 XXXXXXXXXXXXXX
3.0E+02 XXXXXXXXXXXXX
```

N	L	H	B	T	G	ANALYTICAL VALUES
0	0	0	0	0	0	89
0.00	0.00			0.00	0.00	

MAXIMUM = 3.00000E+02
MINIMUM = 5.00000E+01
GEOMETRIC MEAN = 1.51559E+02
GEOMETRIC DEVIATION = 1.46109E+00

A470 GEOCHEMICAL SUMMARY - U S G S STATPAC (01/23/78)

TITLE
NMag Fraction of Seds

FREQUENCY TABLE FOR COLUMN 24 (sy)

LIMITS LOWER - UPPER		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
8.3E+00 -	1.2E+01	0	0	0.00	100.00
1.2E+01 -	1.8E+01	0	0	0.00	100.00
1.8E+01 -	2.6E+01	0	0	0.00	100.00
2.6E+01 -	3.8E+01	0	0	0.00	100.00
3.8E+01 -	5.6E+01	0	0	0.00	100.00
5.6E+01 -	8.3E+01	3	3	3.37	100.00
8.3E+01 -	1.2E+02	9	12	10.11	96.63
1.2E+02 -	1.8E+02	12	24	13.48	86.52
1.8E+02 -	2.6E+02	27	51	30.34	73.03
2.6E+02 -	3.8E+02	4	55	4.49	42.70
3.8E+02 -	5.6E+02	3	58	3.37	38.20
5.6E+02 -	8.3E+02	2	60	2.25	34.83
8.3E+02 -	1.2E+03	1	61	1.12	32.58
1.2E+03 -	1.8E+03	1	62	1.12	31.46

HISTOGRAM FOR COLUMN 24 (sy)

```
7.0E+01 XXX
1.0E+02 XXXXXXXXXX
1.5E+02 XXXXXXXXXXXXX
2.0E+02 XXXXXXXXXXXXXXXXXXXXXXXXXXXX
3.0E+02 XXXX
5.0E+02 XXX
7.0E+02 XX
1.0E+03 X
1.5E+03 X
```

N	L	H	B	T	G	ANALYTICAL VALUES
0	0	0	0	0	27	62
0.00	0.00			0.00	30.34	

MAXIMUM = 1.50000E+03
MINIMUM = 7.00000E+01
GEOMETRIC MEAN = 1.92594E+02
GEOMETRIC DEVIATION = 1.81066E+00

A470 GEOCHEMICAL SUMMARY - U S G S STATPAC (01/23/78)

TITLE
NWag Fraction of Seds

FREQUENCY TABLE FOR COLUMN 25 (szn)

LIMITS LOWER - UPPER		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
1.8E+02 -	2.6E+02	29	29	32.58	40.45
2.6E+02 -	3.8E+02	5	34	5.62	7.87
3.8E+02 -	5.6E+02	2	36	2.25	2.25

HISTOGRAM FOR COLUMN 25 (szn)

```
      2.0E+02 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
      3.0E+02 XXXXXX
      5.0E+02 XX
```

N	L	H	B	T	G	ANALYTICAL VALUES
42	11	0	0	0	0	36
47.19	12.36			0.00	0.00	

MAXIMUM = 5.00000E+02
MINIMUM = 2.00000E+02
GEOMETRIC MEAN = 2.22636E+02
GEOMETRIC DEVIATION = 1.27660E+00

A470 GEOCHEMICAL SUMMARY - U S G S STATPAC (01/23/78)

TITLE
NMag Fraction of Seds

FREQUENCY TABLE FOR COLUMN 26 (szr)

LIMITS LOWER - UPPER		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
8.3E+00 -	1.2E+01	0	0	0.00	100.00
1.2E+01 -	1.8E+01	0	0	0.00	100.00
1.8E+01 -	2.6E+01	0	0	0.00	100.00
2.6E+01 -	3.8E+01	0	0	0.00	100.00
3.8E+01 -	5.6E+01	0	0	0.00	100.00
5.6E+01 -	8.3E+01	0	0	0.00	100.00
8.3E+01 -	1.2E+02	0	0	0.00	100.00
1.2E+02 -	1.8E+02	0	0	0.00	100.00
1.8E+02 -	2.6E+02	5	5	5.62	100.00
2.6E+02 -	3.8E+02	9	14	10.11	94.38
3.8E+02 -	5.6E+02	19	33	21.35	84.27
5.6E+02 -	8.3E+02	28	61	31.46	62.92
8.3E+02 -	1.2E+03	16	77	17.98	31.46

HISTOGRAM FOR COLUMN 26 (szr)

```
  2.0E+02 XXXXXX
  3.0E+02 XXXXXXXXXX
  5.0E+02 XXXXXXXXXXXXXXXXXXXX
  7.0E+02 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
  1.0E+03 XXXXXXXXXXXXXXXXX
```

N	L	H	B	T	G	ANALYTICAL VALUES
0	0	0	0	0	12	77
0.00	0.00			0.00	13.48	

MAXIMUM = 1.00000E+03
MINIMUM = 2.00000E+02
GEOMETRIC MEAN = 5.79280E+02
GEOMETRIC DEVIATION = 1.57621E+00

TITLE
NMag Fraction of Seds

IN THE COMPUTATIONS PERFORMED TO PRODUCE THE FOLLOWING TABLE OF GEOMETRIC MEANS AND DEVIATIONS, ALL ELEMENTS ARE IGNORED WHERE ONE OR MORE OF THE UNQUALIFIED DATA VALUES IS LESS THAN THE ANALYTICAL LIMIT OF DETECTION SPECIFIED ON INPUT OR WHERE ANY DATA VALUES ARE QUALIFIED WITH THE G (GREATER THAN) CODE. DATA VALUES QUALIFIED WITH B OR H ARE NOT USED IN THE COMPUTATIONS. WHERE NONE OF THE DATA VALUES FOR AN ELEMENT ARE QUALIFIED THE MEAN AND DEVIATION SHOULD BE THE SAME AS THOSE GIVEN IN THE PRECEDING SECTION. WHERE DATA ARE QUALIFIED WITH THE CODES N, L, OR T, THE ESTIMATES OF GEOMETRIC MEAN AND DEVIATION ARE BASED ON A METHOD BY A. J. COHEN FOR TREATING 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.

ELEMENT	N	L	H	B	T	G	ANALYTICAL VALUES
sfe%	0	0	0	0	0	0	89
smg%	0	0	0	0	0	0	89
sca%	0	0	0	0	0	0	89
sti%	0	0	0	0	0	68	21
smn	0	0	0	0	0	0	89
sb	65	2	0	0	0	0	22
sba	0	0	0	0	0	0	89
sbe	39	14	0	0	0	0	36
sco	0	0	0	0	0	0	89
scr	0	0	0	0	0	0	89
scu	0	4	0	0	0	0	85
sla	0	0	0	0	0	34	55
snb	4	8	0	0	0	0	77
sni	3	9	0	0	0	0	77
snb	1	0	0	0	0	0	88
ssc	0	0	0	0	0	0	89
ssn	6	0	0	0	0	0	83
ssr	48	14	0	0	0	0	27
sth	8	0	0	0	0	0	81
sv	0	0	0	0	0	0	89
sy	0	0	0	0	0	27	62
szn	42	11	0	0	0	0	36
szr	0	0	0	0	0	12	77

TITLE

ELEMENT	GEOMETRIC MEAN	GEOMETRIC DEVIATION	REMARKS	
sfe%	12.040248	1.50	89 SAMPLES AND 89 ANALYTICAL VALUES.	
smg%	0.167707	2.14	89 SAMPLES AND 89 ANALYTICAL VALUES.	
sca%	0.183336	2.33	89 SAMPLES AND 89 ANALYTICAL VALUES.	
sti%	********	******	68 GREATER THAN VALUES. NO COMPUTATIONS.	
smn	1162.965271	1.80	89 SAMPLES AND 89 ANALYTICAL VALUES.	
sb	4.749697	2.28	67 NOT DETECTED, LESS THAN, OR TRACE VALUES.	22 REPORTED VALUES.
sba	127.463623	2.18	89 SAMPLES AND 89 ANALYTICAL VALUES.	
sbe	0.690904	2.14	53 NOT DETECTED, LESS THAN, OR TRACE VALUES.	36 REPORTED VALUES.
sco	16.678589	1.67	89 SAMPLES AND 89 ANALYTICAL VALUES.	
scr	221.933722	1.77	89 SAMPLES AND 89 ANALYTICAL VALUES.	
scu	9.856494	1.72	4 NOT DETECTED, LESS THAN, OR TRACE VALUES.	85 REPORTED VALUES.
sla	********	******	34 GREATER THAN VALUES. NO COMPUTATIONS.	
snb	32.794053	1.76	12 NOT DETECTED, LESS THAN, OR TRACE VALUES.	77 REPORTED VALUES.
sni	8.645407	2.16	12 NOT DETECTED, LESS THAN, OR TRACE VALUES.	77 REPORTED VALUES.
snb	85.900412	1.64	1 NOT DETECTED, LESS THAN, OR TRACE VALUES.	88 REPORTED VALUES.
ssc	17.428684	1.92	89 SAMPLES AND 89 ANALYTICAL VALUES.	
ssn	29.687087	2.06	6 NOT DETECTED, LESS THAN, OR TRACE VALUES.	83 REPORTED VALUES.
ssr	47.397060	2.77	62 NOT DETECTED, LESS THAN, OR TRACE VALUES.	27 REPORTED VALUES.
sth	380.545437	2.52	8 NOT DETECTED, LESS THAN, OR TRACE VALUES.	81 REPORTED VALUES.
sv	151.558641	1.46	89 SAMPLES AND 89 ANALYTICAL VALUES.	
sy	********	******	27 GREATER THAN VALUES. NO COMPUTATIONS.	
szn	159.400169	1.44	53 NOT DETECTED, LESS THAN, OR TRACE VALUES.	36 REPORTED VALUES.
szr	********	******	12 GREATER THAN VALUES. NO COMPUTATIONS.	

TITLE
Mag Fraction of Seds

THE MAX AND MIN 0.30000E+02 FOR VARIABLE NO. 8 ARE THE SAME. THEREFORE THIS VARIABLE WILL BE SKIPPED.

VARIABLE NO. 15 CONTAINS NO VALID DATA POINTS. THEREFORE THIS VARIABLE WILL BE SKIPPED.

VARIABLE NO. 21 CONTAINS NO VALID DATA POINTS. THEREFORE THIS VARIABLE WILL BE SKIPPED.

VARIABLE NO. 22 CONTAINS NO VALID DATA POINTS. THEREFORE THIS VARIABLE WILL BE SKIPPED.

A470 GEOCHEMICAL SUMMARY - U S G S STATPAC (01/23/78)

TITLE
Mag Fraction of Seds

FREQUENCY TABLE FOR COLUMN 3 (sfe%)

LIMITS LOWER	- UPPER	FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
3.8E-02 -	5.6E-02	0	0	0.00	100.00
5.6E-02 -	8.3E-02	0	0	0.00	100.00
8.3E-02 -	1.2E-01	0	0	0.00	100.00
1.2E-01 -	1.8E-01	0	0	0.00	100.00
1.8E-01 -	2.6E-01	0	0	0.00	100.00
2.6E-01 -	3.8E-01	0	0	0.00	100.00
3.8E-01 -	5.6E-01	0	0	0.00	100.00
5.6E-01 -	8.3E-01	0	0	0.00	100.00
8.3E-01 -	1.2E+00	0	0	0.00	100.00
1.2E+00 -	1.8E+00	0	0	0.00	100.00
1.8E+00 -	2.6E+00	0	0	0.00	100.00
2.6E+00 -	3.8E+00	0	0	0.00	100.00
3.8E+00 -	5.6E+00	0	0	0.00	100.00
5.6E+00 -	8.3E+00	0	0	0.00	100.00
8.3E+00 -	1.2E+01	1	1	1.12	100.00
1.2E+01 -	1.8E+01	35	36	39.33	98.88
1.8E+01 -	2.6E+01	34	70	38.20	59.55

HISTOGRAM FOR COLUMN 3 (sfe%)

```
1.0E+01 X
1.5E+01 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
2.0E+01 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
```

N	L	H	B	T	G	ANALYTICAL VALUES
0	0	0	0	0	19	70
0.00	0.00			0.00	21.35	

MAXIMUM = 2.00000E+01
MINIMUM = 1.00000E+01
GEOMETRIC MEAN = 1.71498E+01
GEOMETRIC DEVIATION = 1.17117E+00

A470 GEOCHEMICAL SUMMARY - U S G S STATPAC (01/23/78)

TITLE
Mag Fraction of Seds

FREQUENCY TABLE FOR COLUMN 4 (smg%)

LIMITS LOWER	- UPPER	FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
1.8E-02 -	2.6E-02	13	13	14.61	97.75
2.6E-02 -	3.8E-02	14	27	15.73	83.15
3.8E-02 -	5.6E-02	27	54	30.34	67.42
5.6E-02 -	8.3E-02	13	67	14.61	37.08
8.3E-02 -	1.2E-01	17	84	19.10	22.47
1.2E-01 -	1.8E-01	3	87	3.37	3.37

HISTOGRAM FOR COLUMN 4 (smg%)

```
2.0E-02 XXXXXXXXXXXXXX
3.0E-02 XXXXXXXXXXXXXXX
5.0E-02 XXXXXXXXXXXXXXXXXXXXXXXXXXXXX
7.0E-02 XXXXXXXXXXXXXX
1.0E-01 XXXXXXXXXXXXXXXXX
1.5E-01 XXX
```

N	L	H	B	T	G	ANALYTICAL VALUES
0	2	0	0	0	0	87
0.00	2.25			0.00	0.00	

MAXIMUM = 1.50000E-01
MINIMUM = 2.00000E-02
GEOMETRIC MEAN = 5.02247E-02
GEOMETRIC DEVIATION = 1.76619E+00

A470 GEOCHEMICAL SUMMARY - U S G S STATPAC (01/23/78)

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Mag Fraction of Seds

FREQUENCY TABLE FOR COLUMN 5 (sca%)

LIMITS LOWER - UPPER		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
3.8E-02 -	5.6E-02	41	41	46.07	91.01
5.6E-02 -	8.3E-02	30	71	33.71	44.94
8.3E-02 -	1.2E-01	10	81	11.24	11.24

HISTOGRAM FOR COLUMN 5 (sca%)

```
  5.0E-02 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
  7.0E-02 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
  1.0E-01 XXXXXXXXXXX
```

N	L	H	B	T	G	ANALYTICAL VALUES
0	8	0	0	0	0	81
0.00	8.99			0.00	0.00	

MAXIMUM = 1.00000E-01
MINIMUM = 5.00000E-02
GEOMETRIC MEAN = 6.16958E-02
GEOMETRIC DEVIATION = 1.27172E+00

A47J GEOCHEMICAL SUMMARY - U S G S STATPAC (01/23/78)

TITLE
Mag Fraction of Seds

FREQUENCY TABLE FOR COLUMN 6 (sti%)

LIMITS LOWER	- UPPER	FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
1.8E-03 -	2.6E-03	0	0	0.00	100.00
2.6E-03 -	3.8E-03	0	0	0.00	100.00
3.8E-03 -	5.6E-03	0	0	0.00	100.00
5.6E-03 -	8.3E-03	0	0	0.00	100.00
8.3E-03 -	1.2E-02	0	0	0.00	100.00
1.2E-02 -	1.8E-02	0	0	0.00	100.00
1.8E-02 -	2.6E-02	0	0	0.00	100.00
2.6E-02 -	3.8E-02	0	0	0.00	100.00
3.8E-02 -	5.6E-02	0	0	0.00	100.00
5.6E-02 -	8.3E-02	0	0	0.00	100.00
8.3E-02 -	1.2E-01	0	0	0.00	100.00
1.2E-01 -	1.8E-01	1	1	1.12	100.00
1.8E-01 -	2.6E-01	11	12	12.36	98.88
2.6E-01 -	3.8E-01	7	19	7.87	86.52
3.8E-01 -	5.6E-01	3	22	3.37	78.65
5.6E-01 -	8.3E-01	4	26	4.49	75.28
8.3E-01 -	1.2E+00	6	32	6.74	70.79

HISTOGRAM FOR COLUMN 6 (sti%)

```
1.5E-01 X
2.0E-01 XXXXXXXXXXX
3.0E-01 XXXXXXXX
5.0E-01 XXX
7.0E-01 XXXX
1.0E+00 XXXXXXX
```

N	L	H	B	T	G	ANALYTICAL VALUES
0	0	0	0	0	57	32
0.00	0.00			0.00	64.04	

MAXIMUM = 1.00000E+00
MINIMUM = 1.50000E-01
GEOMETRIC MEAN = 3.73266E-01
GEOMETRIC DEVIATION = 1.91627E+00

A470 GEOCHEMICAL SUMMARY — U S G S STATPAC (01/23/78)

TITLE
Mag Fraction of Seds

FREQUENCY TABLE FOR COLUMN 7 (smn)

LIMITS LOWER	- UPPER	FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
8.3E+00 -	1.2E+01	0	0	0.00	100.00
1.2E+01 -	1.8E+01	0	0	0.00	100.00
1.8E+01 -	2.6E+01	0	0	0.00	100.00
2.6E+01 -	3.8E+01	0	0	0.00	100.00
3.8E+01 -	5.6E+01	0	0	0.00	100.00
5.6E+01 -	8.3E+01	0	0	0.00	100.00
8.3E+01 -	1.2E+02	0	0	0.00	100.00
1.2E+02 -	1.8E+02	0	0	0.00	100.00
1.8E+02 -	2.6E+02	0	0	0.00	100.00
2.6E+02 -	3.8E+02	6	6	6.74	100.00
3.8E+02 -	5.6E+02	20	26	22.47	93.26
5.6E+02 -	8.3E+02	24	50	26.97	70.79
8.3E+02 -	1.2E+03	34	84	38.20	43.82
1.2E+03 -	1.8E+03	5	89	5.62	5.62

HISTOGRAM FOR COLUMN 7 (smn)

```
3.0E+02 XXXXXXX
5.0E+02 XXXXXXXXXXXXXXXXXXXX
7.0E+02 XXXXXXXXXXXXXXXXXXXXXXXX
1.0E+03 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
1.5E+03 XXXXXX
```

N	L	H	B	T	G	ANALYTICAL VALUES
0	0	0	0	0	0	89
0.00	0.00			0.00	0.00	

MAXIMUM = 1.50000E+03
MINIMUM = 3.00000E+02
GEOMETRIC MEAN = 7.33203E+02
GEOMETRIC DEVIATION = 1.48181E+00

A470 GEOCHEMICAL SUMMARY - U S G S STATPAC (01/23/78)

TITLE
Mag Fraction of Seds

FREQUENCY TABLE FOR COLUMN 9 (sba)

LIMITS LOWER	- UPPER	FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
1.8E+01 -	2.6E+01	28	28	31.46	77.53
2.6E+01 -	3.8E+01	3	31	3.37	46.07
3.8E+01 -	5.6E+01	20	51	22.47	42.70
5.6E+01 -	8.3E+01	11	62	12.36	20.22
8.3E+01 -	1.2E+02	7	69	7.87	7.87

HISTOGRAM FOR COLUMN 9 (sba)

```
2.0E+01 XXXXXXXXXXXXXXXXXXXXXXXXXXXXX
3.0E+01 XXX
5.0E+01 XXXXXXXXXXXXXXXXXXXX
7.0E+01 XXXXXXXXXXXX
1.0E+02 XXXXXXXX
```

N	L	H	B	T	G	ANALYTICAL VALUES
20	0	0	0	0	0	69
22.47	0.00			0.00	0.00	

MAXIMUM = 1.00000E+02
MINIMUM = 2.00000E+01
GEOMETRIC MEAN = 3.81660E+01
GEOMETRIC DEVIATION = 1.80839E+00

A470 GEOCHEMICAL SUMMARY - U S G S STATPAC (01/23/78)

TITLE
Mag Fraction of Seds

FREQUENCY TABLE FOR COLUMN 10 (sbe)

LIMITS LOWER	- UPPER	FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
8.3E-01 -	1.2E+00	6	6	6.74	8.99
1.2E+00 -	1.8E+00	2	8	2.25	2.25

HISTOGRAM FOR COLUMN 10 (sbe)

```
1.0E+00 XXXXXXX
1.5E+00 XX
```

N	L	H	B	T	G	ANALYTICAL VALUES
68	13	0	0	0	0	8
76.40	14.61			0.00	0.00	

MAXIMUM = 1.50000E+00
MINIMUM = 1.00000E+00
GEOMETRIC MEAN = 1.10668E+00
GEOMETRIC DEVIATION = 1.20646E+00

A470 GEOCHEMICAL SUMMARY - U S G S STATPAC (01/23/78)

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Mag Fraction of Seds

FREQUENCY TABLE FOR COLUMN 11 (sco)

LIMITS LOWER - UPPER		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
3.8E+00 -	5.6E+00	0	0	0.00	100.00
5.6E+00 -	8.3E+00	0	0	0.00	100.00
8.3E+00 -	1.2E+01	4	4	4.49	100.00
1.2E+01 -	1.8E+01	59	63	66.29	95.51
1.8E+01 -	2.6E+01	23	86	25.84	29.21
2.6E+01 -	3.8E+01	2	88	2.25	3.37
3.8E+01 -	5.6E+01	0	88	0.00	1.12
5.6E+01 -	8.3E+01	1	89	1.12	1.12

HISTOGRAM FOR COLUMN 11 (sco)

```
1.0E+01 XXXX
1.5E+01 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
2.0E+01 XXXXXXXXXXXXXXXXXXXXXXX
3.0E+01 XX
5.0E+01
7.0E+01 X
```

N	L	H	B	T	G	ANALYTICAL VALUES
0	0	0	0	0	0	89
0.00	0.00			0.00	0.00	

MAXIMUM = 7.00000E+01
MINIMUM = 1.00000E+01
GEOMETRIC MEAN = 1.63963E+01
GEOMETRIC DEVIATION = 1.27488E+00

A470 GEOCHEMICAL SUMMARY - U S G S STATPAC (01/23/78)

TITLE
Mag Fraction of Seds

FREQUENCY TABLE FOR COLUMN 12 (scr)

LIMITS LOWER - UPPER		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
8.3E+00 -	1.2E+01	0	0	0.00	100.00
1.2E+01 -	1.8E+01	0	0	0.00	100.00
1.8E+01 -	2.6E+01	0	0	0.00	100.00
2.6E+01 -	3.8E+01	0	0	0.00	100.00
3.8E+01 -	5.6E+01	0	0	0.00	100.00
5.6E+01 -	8.3E+01	0	0	0.00	100.00
8.3E+01 -	1.2E+02	1	1	1.12	100.00
1.2E+02 -	1.8E+02	6	7	6.74	98.88
1.8E+02 -	2.6E+02	20	27	22.47	92.13
2.6E+02 -	3.8E+02	18	45	20.22	69.66
3.8E+02 -	5.6E+02	15	60	16.85	49.44
5.6E+02 -	8.3E+02	14	74	15.73	32.58
8.3E+02 -	1.2E+03	9	83	10.11	16.85
1.2E+03 -	1.8E+03	6	89	6.74	6.74

HISTOGRAM FOR COLUMN 12 (scr)

```
1.0E+02 X
1.5E+02 XXXXXXX
2.0E+02 XXXXXXXXXXXXXXXXXXXX
3.0E+02 XXXXXXXXXXXXXXXXXX
5.0E+02 XXXXXXXXXXXXXXXX
7.0E+02 XXXXXXXXXXXXXXX
1.0E+03 XXXXXXXXXX
1.5E+03 XXXXXXX
```

N	L	H	B	T	G	ANALYTICAL VALUES
0	0	0	0	0	0	89
0.00	0.00			0.00	0.00	

MAXIMUM = 1.50000E+03
MINIMUM = 1.00000E+02
GEOMETRIC MEAN = 4.04731E+02
GEOMETRIC DEVIATION = 1.99459E+00

A470 GEOCHEMICAL SUMMARY — U S G S STATPAC (01/23/78)

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Mag Fraction of Seds

FREQUENCY TABLE FOR COLUMN 13 (scu)

LIMITS LOWER	- UPPER	FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
3.8E+00 -	5.6E+00	21	21	23.60	88.76
5.6E+00 -	8.3E+00	15	36	16.85	65.17
8.3E+00 -	1.2E+01	20	56	22.47	48.31
1.2E+01 -	1.8E+01	16	72	17.98	25.84
1.8E+01 -	2.6E+01	5	77	5.62	7.87
2.6E+01 -	3.8E+01	1	78	1.12	2.25
3.8E+01 -	5.6E+01	1	79	1.12	1.12

HISTOGRAM FOR COLUMN 13 (scu)

```
5.0E+00 XXXXXXXXXXXXXXXXXXXXXXX
7.0E+00 XXXXXXXXXXXXXXXX
1.0E+01 XXXXXXXXXXXXXXXXXXXXX
1.5E+01 XXXXXXXXXXXXXXXXX
2.0E+01 XXXXXX
3.0E+01 X
5.0E+01 X
```

N	L	H	B	T	G	ANALYTICAL VALUES
0	10	0	0	0	0	79
0.00	11.24			0.00	0.00	

MAXIMUM = 5.00000E+01
MINIMUM = 5.00000E+00
GEOMETRIC MEAN = 9.12371E+00
GEOMETRIC DEVIATION = 1.66268E+00

A470 GEOCHEMICAL SUMMARY - U S G S STATPAC (01/23/78)

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Mag Fraction of Seds

FREQUENCY TABLE FOR COLUMN 14 (sla)

LIMITS LOWER	- UPPER	FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
1.8E+01 -	2.6E+01	2	2	2.25	100.00
2.6E+01 -	3.8E+01	1	3	1.12	97.75
3.8E+01 -	5.6E+01	1	4	1.12	96.63
5.6E+01 -	8.3E+01	5	9	5.62	95.51
8.3E+01 -	1.2E+02	28	37	31.46	89.89
1.2E+02 -	1.8E+02	34	71	38.20	58.43
1.8E+02 -	2.6E+02	15	86	16.85	20.22
2.6E+02 -	3.8E+02	2	88	2.25	3.37
3.8E+02 -	5.6E+02	1	89	1.12	1.12

HISTOGRAM FOR COLUMN 14 (sla)

```
2.0E+01 XX
3.0E+01 X
5.0E+01 X
7.0E+01 XXXXXX
1.0E+02 XXXXXXXXXXXXXXXXXXXXXXXXXXXX
1.5E+02 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
2.0E+02 XXXXXXXXXXXXXXXX
3.0E+02 XX
5.0E+02 X
```

N	L	H	B	T	G	ANALYTICAL VALUES
0	0	0	0	0	0	89
0.00	0.00			0.00	0.00	

MAXIMUM = 5.00000E+02
MINIMUM = 2.00000E+01
GEOMETRIC MEAN = 1.26740E+02
GEOMETRIC DEVIATION = 1.62131E+00

A470 GEOCHEMICAL SUMMARY - U S G S STATPAC (01/23/78)

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Mag Fraction of Seds

FREQUENCY TABLE FOR COLUMN 16 (snb)

LIMITS LOWER - UPPER		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
1.8E+01 -	2.6E+01	18	18	20.22	77.53
2.6E+01 -	3.8E+01	13	31	14.61	57.30
3.8E+01 -	5.6E+01	24	55	26.97	42.70
5.6E+01 -	8.3E+01	11	66	12.36	15.73
8.3E+01 -	1.2E+02	3	69	3.37	3.37

HISTOGRAM FOR COLUMN 16 (snb)

```
2.0E+01 XXXXXXXXXXXXXXXXXX
3.0E+01 XXXXXXXXXXXXXX
5.0E+01 XXXXXXXXXXXXXXXXXXXXXXXXXX
7.0E+01 XXXXXXXXXXXX
1.0E+02 XXX
```

N	L	H	B	T	G	ANALYTICAL VALUES
12	8	0	0	0	0	69
13.48	8.99			0.00	0.00	

MAXIMUM = 1.00000E+02
MINIMUM = 2.00000E+01
GEOMETRIC MEAN = 3.88818E+01
GEOMETRIC DEVIATION = 1.64453E+00

A470 GEOCHEMICAL SUMMARY - U S G S STATPAC (01/23/78)

TITLE
Mag Fraction of Seds

FREQUENCY TABLE FOR COLUMN 17 (sni)

LIMITS LOWER - UPPER		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
3.8E+00 -	5.6E+00	1	1	1.12	100.00
5.6E+00 -	8.3E+00	0	1	0.00	98.88
8.3E+00 -	1.2E+01	0	1	0.00	98.88
1.2E+01 -	1.8E+01	9	10	10.11	98.88
1.8E+01 -	2.6E+01	44	54	49.44	88.76
2.6E+01 -	3.8E+01	25	79	28.09	39.33
3.8E+01 -	5.6E+01	10	89	11.24	11.24

HISTOGRAM FOR COLUMN 17 (sni)

```
5.0E+00 X
7.0E+00
1.0E+01
1.5E+01 XXXXXXXXXX
2.0E+01 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
3.0E+01 XXXXXXXXXXXXXXXXXXXXXXXXXX
5.0E+01 XXXXXXXXXXX
```

N	L	H	B	T	G	ANALYTICAL VALUES
0	0	0	0	0	0	89
0.00	0.00			0.00	0.00	

MAXIMUM = 5.00000E+01
MINIMUM = 5.00000E+00
GEOMETRIC MEAN = 2.37579E+01
GEOMETRIC DEVIATION = 1.45849E+00

A470 GEOCHEMICAL SUMMARY - U S G S STATPAC (01/23/78)

TITLE
Mag Fraction of Seds

FREQUENCY TABLE FOR COLUMN 18 (spb)

LIMITS LOWER	- UPPER	FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
8.3E+00 -	1.2E+01	24	24	26.97	80.90
1.2E+01 -	1.8E+01	33	57	37.08	53.93
1.8E+01 -	2.6E+01	14	71	15.73	16.85
2.6E+01 -	3.8E+01	1	72	1.12	1.12

HISTOGRAM FOR COLUMN 18 (spb)

```
1.0E+01 XXXXXXXXXXXXXXXXXXXXXXXXX
1.5E+01 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
2.0E+01 XXXXXXXXXXXXXXX
3.0E+01 X
```

N	L	H	B	T	G	ANALYTICAL VALUES
1	16	0	0	0	0	72
1.12	17.98			0.00	0.00	

MAXIMUM = 3.00000E+01
MINIMUM = 1.00000E+01
GEOMETRIC MEAN = 1.39916E+01
GEOMETRIC DEVIATION = 1.31202E+00

A470 GEOCHEMICAL SUMMARY - U S G S STATPAC (01/23/78)

TITLE
Mag Fraction of Seds

FREQUENCY TABLE FOR COLUMN 19 (ssc)

LIMITS LOWER - UPPER	FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
3.8E+00 - 5.6E+00	7	7	7.87	100.00
5.6E+00 - 8.3E+00	8	15	8.99	92.13
8.3E+00 - 1.2E+01	54	69	60.67	83.15
1.2E+01 - 1.8E+01	17	86	19.10	22.47
1.8E+01 - 2.6E+01	3	89	3.37	3.37

HISTOGRAM FOR COLUMN 19 (ssc)

```
5.0E+00 XXXXXXX
7.0E+00 XXXXXXXX
1.0E+01 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
1.5E+01 XXXXXXXXXXXXXXXXX
2.0E+01 XXX
```

N	L	H	B	T	G	ANALYTICAL VALUES
0	0	0	0	0	0	89
0.00	0.00			0.00	0.00	

MAXIMUM = 2.00000E+01
MINIMUM = 5.00000E+00
GEOMETRIC MEAN = 1.01434E+01
GEOMETRIC DEVIATION = 1.36697E+00

A470 GEOCHEMICAL SUMMARY -- U S G S STATPAC (01/23/78)

TITLE
Mag Fraction of Seds

FREQUENCY TABLE FOR COLUMN 20 (ssn)

LIMITS LOWER	- UPPER	FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
8.3E+00 -	1.2E+01	14	14	15.73	87.64
1.2E+01 -	1.8E+01	18	32	20.22	71.91
1.8E+01 -	2.6E+01	34	66	38.20	51.69
2.6E+01 -	3.8E+01	11	77	12.36	13.48
3.8E+01 -	5.6E+01	0	77	0.00	1.12
5.6E+01 -	8.3E+01	0	77	0.00	1.12
8.3E+01 -	1.2E+02	1	78	1.12	1.12

HISTOGRAM FOR COLUMN 20 (ssn)

```
1.0E+01 XXXXXXXXXXXXXXX
1.5E+01 XXXXXXXXXXXXXXXXXXX
2.0E+01 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
3.0E+01 XXXXXXXXXXX
5.0E+01
7.0E+01
1.0E+02 X
```

N	L	H	S	T	G	ANALYTICAL VALUES
11	0	0	0	0	0	78
12.36	0.00			0.00	0.00	

MAXIMUM = 1.00000E+02
MINIMUM = 1.00000E+01
GEOMETRIC MEAN = 1.78633E+01
GEOMETRIC DEVIATION = 1.47470E+00

A470 GEOCHEMICAL SUMMARY - U S G S STATPAC (01/23/78)

TITLE
Mag Fraction of Seds

FREQUENCY TABLE FOR COLUMN 23 (sv)

LIMITS LOWER - UPPER	FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
8.3E+00 - 1.2E+01	0	0	0.00	100.00
1.2E+01 - 1.8E+01	0	0	0.00	100.00
1.8E+01 - 2.6E+01	0	0	0.00	100.00
2.6E+01 - 3.8E+01	0	0	0.00	100.00
3.8E+01 - 5.6E+01	0	0	0.00	100.00
5.6E+01 - 8.3E+01	0	0	0.00	100.00
8.3E+01 - 1.2E+02	0	0	0.00	100.00
1.2E+02 - 1.8E+02	0	0	0.00	100.00
1.8E+02 - 2.6E+02	18	18	20.22	100.00
2.6E+02 - 3.8E+02	61	79	68.54	79.78
3.8E+02 - 5.6E+02	10	89	11.24	11.24

HISTOGRAM FOR COLUMN 23 (sv)

```
2.0E+02 XXXXXXXXXXXXXXXXXXXX
3.0E+02 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
5.0E+02 XXXXXXXXXXX
```

N	L	H	B	T	G	ANALYTICAL VALUES
0	0	0	0	0	0	89
0.00	0.00			0.00	0.00	

MAXIMUM = 5.00000E+02
MINIMUM = 2.00000E+02
GEOMETRIC MEAN = 2.92708E+02
GEOMETRIC DEVIATION = 1.28446E+00

A470 GEOCHEMICAL SUMMARY - U S G S STATPAC (01/23/78)

TITLE
Mag Fraction of Seds

FREQUENCY TABLE FOR COLUMN 24 (sy)

LIMITS LOWER	- UPPER	FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
8.3E+00 -	1.2E+01	28	28	31.46	100.00
1.2E+01 -	1.8E+01	0	28	0.00	68.54
1.8E+01 -	2.6E+01	23	51	25.84	68.54
2.6E+01 -	3.8E+01	10	61	11.24	42.70
3.8E+01 -	5.6E+01	18	79	20.22	31.46
5.6E+01 -	8.3E+01	4	83	4.49	11.24
8.3E+01 -	1.2E+02	5	88	5.62	6.74
1.2E+02 -	1.8E+02	1	89	1.12	1.12

HISTOGRAM FOR COLUMN 24 (sy)

```
1.0E+01 XXXXXXXXXXXXXXXXXXXXXXXXXXXX
1.5E+01
2.0E+01 XXXXXXXXXXXXXXXXXXXXXXXX
3.0E+01 XXXXXXXXXX
5.0E+01 XXXXXXXXXXXXXXXXXX
7.0E+01 XXXX
1.0E+02 XXXXXX
1.5E+02 X
```

N	L	H	B	T	G	ANALYTICAL VALUES
0	0	0	0	0	0	89
0.00	0.00			0.00	0.00	

MAXIMUM = 1.50000E+02
MINIMUM = 1.00000E+01
GEOMETRIC MEAN = 2.39963E+01
GEOMETRIC DEVIATION = 2.13373E+00

A470 GEOCHEMICAL SUMMARY - U S G S STATPAC (01/23/78)

TITLE
Mag Fraction of Seds

FREQUENCY TABLE FOR COLUMN 25 (szn)

LIMITS LOWER	- UPPER	FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
1.8E+02 -	2.6E+02	12	12	13.48	95.51
2.6E+02 -	3.8E+02	50	62	56.18	82.02
3.8E+02 -	5.6E+02	18	80	20.22	25.84
5.6E+02 -	8.3E+02	4	84	4.49	5.62
8.3E+02 -	1.2E+03	1	85	1.12	1.12

HISTOGRAM FOR COLUMN 25 (szn)

```
2.0E+02 xxxxxxxxxxxx
3.0E+02 xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
5.0E+02 xxxxxxxxxxxxxxxxxxx
7.0E+02 xxxx
1.0E+03 x
```

N	L	H	B	T	G	ANALYTICAL VALUES
0	4	0	0	0	0	85
0.00	4.49			0.00	0.00	

MAXIMUM = 1.00000E+03
MINIMUM = 2.00000E+02
GEOMETRIC MEAN = 3.33203E+02
GEOMETRIC DEVIATION = 1.41336E+00

A470 GEOCHEMICAL SUMMARY — U S G S STATPAC (01/23/78)

TITLE
Mag Fraction of Seds

FREQUENCY TABLE FOR COLUMN 26 (szr)

LIMITS LOWER	- UPPER	FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
8.3E+00 -	1.2E+01	0	0	0.00	100.00
1.2E+01 -	1.8E+01	0	0	0.00	100.00
1.8E+01 -	2.6E+01	0	0	0.00	100.00
2.6E+01 -	3.8E+01	0	0	0.00	100.00
3.8E+01 -	5.6E+01	3	3	3.37	100.00
5.6E+01 -	8.3E+01	1	4	1.12	96.63
8.3E+01 -	1.2E+02	25	29	28.09	95.51
1.2E+02 -	1.8E+02	10	39	11.24	67.42
1.8E+02 -	2.6E+02	24	63	26.97	56.18
2.6E+02 -	3.8E+02	20	83	22.47	29.21
3.8E+02 -	5.6E+02	1	84	1.12	6.74
5.6E+02 -	8.3E+02	3	87	3.37	5.62
8.3E+02 -	1.2E+03	2	89	2.25	2.25

HISTOGRAM FOR COLUMN 26 (szr)

```
5.0E+01 XXX
7.0E+01 X
1.0E+02 XXXXXXXXXXXXXXXXXXXXXXXXX
1.5E+02 XXXXXXXXXX
2.0E+02 XXXXXXXXXXXXXXXXXXXXXXXX
3.0E+02 XXXXXXXXXXXXXXXXXXX
5.0E+02 X
7.0E+02 XXX
1.0E+03 XX
```

N	L	H	B	T	G	ANALYTICAL VALUES
0	0	0	0	0	0	89
0.00	0.00			0.00	0.00	

MAXIMUM = 1.00000E+03
MINIMUM = 5.00000E+01
GEOMETRIC MEAN = 1.79931E+02
GEOMETRIC DEVIATION = 1.84014E+00

TITLE
Mag Fraction of Seds

IN THE COMPUTATIONS PERFORMED TO PRODUCE THE FOLLOWING TABLE OF GEOMETRIC MEANS AND DEVIATIONS, ALL ELEMENTS ARE IGNORED WHERE ONE OR MORE OF THE UNQUALIFIED DATA VALUES IS LESS THAN THE ANALYTICAL LIMIT OF DETECTION SPECIFIED ON INPUT OR WHERE ANY DATA VALUES ARE QUALIFIED WITH THE G (GREATER THAN) CODE. DATA VALUES QUALIFIED WITH B OR H ARE NOT USED IN THE COMPUTATIONS. WHERE NONE OF THE DATA VALUES FOR AN ELEMENT ARE QUALIFIED THE MEAN AND DEVIATION SHOULD BE THE SAME AS THOSE GIVEN IN THE PRECEDING SECTION. WHERE DATA ARE QUALIFIED WITH THE CODES N, L, OR T, THE ESTIMATES OF GEOMETRIC MEAN AND DEVIATION ARE BASED ON A METHOD BY A. J. COHEN FOR TREATING 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.

ELEMENT	N	L	H	B	T	G	ANALYTICAL VALUES
sfe%	0	0	0	0	0	19	70
smg%	0	2	0	0	0	0	87
sca%	0	8	0	0	0	0	81
sti%	0	0	0	0	0	57	32
smn	0	0	0	0	0	0	89
sba	20	0	0	0	0	0	69
sbe	68	13	0	0	0	0	8
sco	0	0	0	0	0	0	89
scr	0	0	0	0	0	0	89
scu	0	10	0	0	0	0	79
sla	0	0	0	0	0	0	89
snb	12	8	0	0	0	0	69
sni	0	0	0	0	0	0	89
spb	1	16	0	0	0	0	72
ssc	0	0	0	0	0	0	89
ssn	11	0	0	0	0	0	78
sv	0	0	0	0	0	0	89
sy	0	0	0	0	0	0	89
szn	0	4	0	0	0	0	85
szr	0	0	0	0	0	0	89

TITLE

ELEMENT	GEOMETRIC MEAN	GEOMETRIC DEVIATION	REMARKS	
sfe%	********	******	19 GREATER THAN VALUES. NO COMPUTATIONS.	
smg%	0.048798	1.81	2 NOT DETECTED, LESS THAN, OR TRACE VALUES.	87 REPORTED VALUES.
sca%	0.058429	1.34	8 NOT DETECTED, LESS THAN, OR TRACE VALUES.	81 REPORTED VALUES.
sti%	********	******	57 GREATER THAN VALUES. NO COMPUTATIONS.	
smn	733.202965	1.48	89 SAMPLES AND 89 ANALYTICAL VALUES.	
sba	29.059727	2.11	20 NOT DETECTED, LESS THAN, OR TRACE VALUES.	69 REPORTED VALUES.
sbe	0.373373	1.81	81 NOT DETECTED, LESS THAN, OR TRACE VALUES.	8 REPORTED VALUES.
sco	16.396315	1.27	89 SAMPLES AND 89 ANALYTICAL VALUES.	
scr	404.730999	1.99	89 SAMPLES AND 89 ANALYTICAL VALUES.	
scu	8.004924	1.84	10 NOT DETECTED, LESS THAN, OR TRACE VALUES.	79 REPORTED VALUES.
sla	126.740314	1.62	89 SAMPLES AND 89 ANALYTICAL VALUES.	
snb	29.903762	1.96	20 NOT DETECTED, LESS THAN, OR TRACE VALUES.	69 REPORTED VALUES.
sni	23.757858	1.46	89 SAMPLES AND 89 ANALYTICAL VALUES.	
spb	12.174692	1.47	17 NOT DETECTED, LESS THAN, OR TRACE VALUES.	72 REPORTED VALUES.
ssc	10.143369	1.37	89 SAMPLES AND 89 ANALYTICAL VALUES.	
ssn	15.775738	1.64	11 NOT DETECTED, LESS THAN, OR TRACE VALUES.	78 REPORTED VALUES.
sv	292.707764	1.28	89 SAMPLES AND 89 ANALYTICAL VALUES.	
sy	23.996306	2.13	89 SAMPLES AND 89 ANALYTICAL VALUES.	
szn	321.590717	1.46	4 NOT DETECTED, LESS THAN, OR TRACE VALUES.	85 REPORTED VALUES.
szr	179.930571	1.84	89 SAMPLES AND 89 ANALYTICAL VALUES.	

A470 GEOCHEMICAL SUMMARY - U S G S STATPAC (01/23/78) DATE 1/16/80

TITLE
Fine Fraction of Seds

VARIABLE NO. 25 CONTAINS NO VALID DATA POINTS. THEREFORE THIS VARIABLE WILL BE SKIPPED.

TITLE
Fine Fraction of Seds

FREQUENCY TABLE FOR COLUMN 3 (sfe%)

LIMITS LOWER - UPPER		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
3.8E-02 -	5.6E-02	0	0	0.00	100.00
5.6E-02 -	8.3E-02	0	0	0.00	100.00
8.3E-02 -	1.2E-01	0	0	0.00	100.00
1.2E-01 -	1.8E-01	0	0	0.00	100.00
1.8E-01 -	2.6E-01	0	0	0.00	100.00
2.6E-01 -	3.8E-01	0	0	0.00	100.00
3.8E-01 -	5.6E-01	0	0	0.00	100.00
5.6E-01 -	8.3E-01	0	0	0.00	100.00
8.3E-01 -	1.2E+00	0	0	0.00	100.00
1.2E+00 -	1.8E+00	2	2	2.22	100.00
1.8E+00 -	2.6E+00	14	16	15.56	97.78
2.6E+00 -	3.8E+00	54	70	60.00	82.22
3.8E+00 -	5.6E+00	16	86	17.78	22.22
5.6E+00 -	8.3E+00	4	90	4.44	4.44

HISTOGRAM FOR COLUMN 3 (sfe%)

```
1.5E+00 XX
2.0E+00 XXXXXXXXXXXXXX
3.0E+00 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
5.0E+00 XXXXXXXXXXXXXXXX
7.0E+00 XXXX
```

N	L	H	B	T	G	ANALYTICAL VALUES
0	0	0	0	0	0	90
0.00	0.00			0.00	0.00	

MAXIMUM = 7.00000E+00
MINIMUM = 1.50000E+00
GEOMETRIC MEAN = 3.15380E+00
GEOMETRIC DEVIATION = 1.40019E+00

A470 GEOCHEMICAL SUMMARY - U S G S STATPAC (01/23/78)

TITLE
Fine Fraction of Seds

FREQUENCY TABLE FOR COLUMN 4 (smg%)

LIMITS LOWER	- UPPER	FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
1.8E-02 -	2.6E-02	0	0	0.00	100.00
2.6E-02 -	3.8E-02	0	0	0.00	100.00
3.8E-02 -	5.6E-02	0	0	0.00	100.00
5.6E-02 -	8.3E-02	0	0	0.00	100.00
8.3E-02 -	1.2E-01	0	0	0.00	100.00
1.2E-01 -	1.8E-01	0	0	0.00	100.00
1.8E-01 -	2.6E-01	1	1	1.11	100.00
2.6E-01 -	3.8E-01	12	13	13.33	98.89
3.8E-01 -	5.6E-01	35	48	38.89	85.56
5.6E-01 -	8.3E-01	28	76	31.11	46.67
8.3E-01 -	1.2E+00	12	88	13.33	15.56
1.2E+00 -	1.8E+00	2	90	2.22	2.22

HISTOGRAM FOR COLUMN 4 (smg%)

```
2.0E-01 X
3.0E-01 XXXXXXXXXXXX
5.0E-01 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
7.0E-01 XXXXXXXXXXXXXXXXXXXXXXXXXXXX
1.0E+00 XXXXXXXXXXXX
1.5E+00 XX
```

N	L	H	B	T	G	ANALYTICAL VALUES
0	0	0	0	0	0	90
0.00	0.00			0.00	0.00	

MAXIMUM = 1.50000E+00
MINIMUM = 2.00000E-01
GEOMETRIC MEAN = 5.76993E-01
GEOMETRIC DEVIATION = 1.47564E+00

A470 GEOCHEMICAL SUMMARY - U S G S STATPAC (01/23/78)

TITLE
Fine Fraction of Seds

FREQUENCY TABLE FOR COLUMN 5 (sca%)

LIMITS LOWER - UPPER		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
3.8E-02 -	5.6E-02	0	0	0.00	100.00
5.6E-02 -	8.3E-02	0	0	0.00	100.00
8.3E-02 -	1.2E-01	0	0	0.00	100.00
1.2E-01 -	1.8E-01	0	0	0.00	100.00
1.8E-01 -	2.6E-01	0	0	0.00	100.00
2.6E-01 -	3.8E-01	6	6	6.67	100.00
3.8E-01 -	5.6E-01	32	38	35.56	93.33
5.6E-01 -	8.3E-01	32	70	35.56	57.78
8.3E-01 -	1.2E+00	17	87	18.89	22.22
1.2E+00 -	1.8E+00	3	90	3.33	3.33

HISTOGRAM FOR COLUMN 5 (sca%)

```
3.0E-01 XXXXXXX
5.0E-01 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
7.0E-01 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
1.0E+00 XXXXXXXXXXXXXXXXXX
1.5E+00 XXX
```

N	L	H	B	T	G	ANALYTICAL VALUES
0	0	0	0	0	0	90
0.00	0.00			0.00	0.00	

MAXIMUM = 1.50000E+00
MINIMUM = 3.00000E-01
GEOMETRIC MEAN = 6.44024E-01
GEOMETRIC DEVIATION = 1.42605E+00

A470 GEOCHEMICAL SUMMARY - U S G S STATPAC (01/23/78)

TITLE
Fine Fraction of Seds

FREQUENCY TABLE FOR COLUMN 6 (sti%)

LIMITS LOWER - UPPER		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
1.8E-03 -	2.6E-03	0	0	0.00	100.00
2.6E-03 -	3.8E-03	0	0	0.00	100.00
3.8E-03 -	5.6E-03	0	0	0.00	100.00
5.6E-03 -	8.3E-03	0	0	0.00	100.00
8.3E-03 -	1.2E-02	0	0	0.00	100.00
1.2E-02 -	1.8E-02	0	0	0.00	100.00
1.8E-02 -	2.6E-02	0	0	0.00	100.00
2.6E-02 -	3.8E-02	0	0	0.00	100.00
3.8E-02 -	5.6E-02	0	0	0.00	100.00
5.6E-02 -	8.3E-02	0	0	0.00	100.00
8.3E-02 -	1.2E-01	0	0	0.00	100.00
1.2E-01 -	1.8E-01	0	0	0.00	100.00
1.8E-01 -	2.6E-01	14	14	15.56	100.00
2.6E-01 -	3.8E-01	28	42	31.11	84.44
3.8E-01 -	5.6E-01	31	73	34.44	53.33
5.6E-01 -	8.3E-01	13	86	14.44	18.89
8.3E-01 -	1.2E+00	4	90	4.44	4.44

HISTOGRAM FOR COLUMN 6 (sti%)

```
2.0E-01 XXXXXXXXXXXXXXX
3.0E-01 XXXXXXXXXXXXXXXXXXXXXXXXXXXXX
5.0E-01 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
7.0E-01 XXXXXXXXXXXXX
1.0E+00 XXXX
```

N	L	H	B	T	G	ANALYTICAL VALUES
0	0	0	0	0	0	90
0.00	0.00			0.00	0.00	

MAXIMUM = 1.00000E+00
MINIMUM = 2.00000E-01
GEOMETRIC MEAN = 4.00438E-01
GEOMETRIC DEVIATION = 1.56820E+00

A470 GEOCHEMICAL SUMMARY - U S G S STATPAC (01/23/78)

TITLE
Fine Fraction of Seds

FREQUENCY TABLE FOR COLUMN 7 (smn)

LIMITS LOWER - UPPER		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
8.3E+00 -	1.2E+01	0	0	0.00	100.00
1.2E+01 -	1.8E+01	0	0	0.00	100.00
1.8E+01 -	2.6E+01	0	0	0.00	100.00
2.6E+01 -	3.8E+01	0	0	0.00	100.00
3.8E+01 -	5.6E+01	0	0	0.00	100.00
5.6E+01 -	8.3E+01	0	0	0.00	100.00
8.3E+01 -	1.2E+02	0	0	0.00	100.00
1.2E+02 -	1.8E+02	0	0	0.00	100.00
1.8E+02 -	2.6E+02	2	2	2.22	100.00
2.6E+02 -	3.8E+02	5	7	5.56	97.78
3.8E+02 -	5.6E+02	42	49	46.67	92.22
5.6E+02 -	8.3E+02	29	78	32.22	45.56
8.3E+02 -	1.2E+03	11	89	12.22	13.33
1.2E+03 -	1.8E+03	1	90	1.11	1.11

HISTOGRAM FOR COLUMN 7 (smn)

```
2.0E+02 XX
3.0E+02 XXXXXX
5.0E+02 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
7.0E+02 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
1.0E+03 XXXXXXXXXXX
1.5E+03 X
```

N	L	H	B	T	G	ANALYTICAL VALUES
0	0	0	0	0	0	90
0.00	0.00			0.00	0.00	

MAXIMUM = 1.50000E+03
MINIMUM = 2.00000E+02
GEOMETRIC MEAN = 5.84766E+02
GEOMETRIC DEVIATION = 1.41102E+00

A470 GEOCHEMICAL SUMMARY - U S G S STATPAC (01/23/78)

TITLE
Fine Fraction of Seds

FREQUENCY TABLE FOR COLUMN 8 (sb)

LIMITS LOWER - UPPER		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
8.3E+00 -	1.2E+01	33	33	36.67	86.67
1.2E+01 -	1.8E+01	16	49	17.78	50.00
1.8E+01 -	2.6E+01	16	65	17.78	32.22
2.6E+01 -	3.8E+01	7	72	7.78	14.44
3.8E+01 -	5.6E+01	2	74	2.22	6.67
5.6E+01 -	8.3E+01	1	75	1.11	4.44
8.3E+01 -	1.2E+02	2	77	2.22	3.33
1.2E+02 -	1.8E+02	1	78	1.11	1.11

HISTOGRAM FOR COLUMN 8 (sb)

```
1.0E+01 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
1.5E+01 XXXXXXXXXXXXXXXXX
2.0E+01 XXXXXXXXXXXXXXXXX
3.0E+01 XXXXXXXX
5.0E+01 XX
7.0E+01 X
1.0E+02 XX
1.5E+02 X
```

N	L	H	B	T	G	ANALYTICAL VALUES
1	11	0	0	0	0	78
1.11	12.22			0.00	0.00	

MAXIMUM = 1.50000E+02
MINIMUM = 1.00000E+01
GEOMETRIC MEAN = 1.62243E+01
GEOMETRIC DEVIATION = 1.81589E+00

A470 GEOCHEMICAL SUMMARY - U S G S STATPAC (01/23/78)

TITLE
Fine Fraction of Seds

FREQUENCY TABLE FOR COLUMN 9 (sba)

LIMITS LOWER - UPPER		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
1.8E+01 -	2.6E+01	0	0	0.00	100.00
2.6E+01 -	3.8E+01	0	0	0.00	100.00
3.8E+01 -	5.6E+01	0	0	0.00	100.00
5.6E+01 -	8.3E+01	0	0	0.00	100.00
8.3E+01 -	1.2E+02	0	0	0.00	100.00
1.2E+02 -	1.8E+02	0	0	0.00	100.00
1.8E+02 -	2.6E+02	0	0	0.00	100.00
2.6E+02 -	3.8E+02	13	13	14.44	100.00
3.8E+02 -	5.6E+02	51	64	56.67	85.56
5.6E+02 -	8.3E+02	26	90	28.89	28.89

HISTOGRAM FOR COLUMN 9 (sba)

```
3.0E+02 XXXXXXXXXXXXX
5.0E+02 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
7.0E+02 XXXXXXXXXXXXXXXXXXXXXXXXXX
```

N	L	H	B	T	G	ANALYTICAL VALUES
0	0	0	0	0	0	90
0.00	0.00			0.00	0.00	

MAXIMUM = 7.00000E+02
MINIMUM = 3.00000E+02
GEOMETRIC MEAN = 5.11847E+02
GEOMETRIC DEVIATION = 1.30442E+00

A470 GEOCHEMICAL SUMMARY - U S G S STATPAC (01/23/78)

TITLE
Fine Fraction of Seds

FREQUENCY TABLE FOR COLUMN 10 (sbe)

LIMITS LOWER - UPPER		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
8.3E-01 -	1.2E+00	8	8	8.89	100.00
1.2E+00 -	1.8E+00	33	41	36.67	91.11
1.8E+00 -	2.6E+00	39	80	43.33	54.44
2.6E+00 -	3.8E+00	9	89	10.00	11.11
3.8E+00 -	5.6E+00	1	90	1.11	1.11

HISTOGRAM FOR COLUMN 10 (sbe)

```
1.0E+00 XXXXXXXXX
1.5E+00 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
2.0E+00 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
3.0E+00 XXXXXXXXXX
5.0E+00 X
```

N	L	H	B	T	G	ANALYTICAL VALUES
0	0	0	0	0	0	90
0.00	0.00			0.00	0.00	

MAXIMUM = 5.00000E+00
MINIMUM = 1.00000E+00
GEOMETRIC MEAN = 1.78029E+00
GEOMETRIC DEVIATION = 1.34133E+00

A470 GEOCHEMICAL SUMMARY - U S G S STATPAC (01/23/78)

TITLE
Fine Fraction of Seds

FREQUENCY TABLE FOR COLUMN 11 (sco)

LIMITS LOWER - UPPER		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
3.8E+00 -	5.6E+00	9	9	10.00	100.00
5.6E+00 -	8.3E+00	2	11	2.22	90.00
8.3E+00 -	1.2E+01	57	68	63.33	87.78
1.2E+01 -	1.8E+01	19	87	21.11	24.44
1.8E+01 -	2.6E+01	3	90	3.33	3.33

HISTOGRAM FOR COLUMN 11 (sco)

```
5.0E+00 XXXXXXXXX
7.0E+00 XX
1.0E+01 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
1.5E+01 XXXXXXXXXXXXXXXXXXX
2.0E+01 XXX
```

N	L	H	B	T	G	ANALYTICAL VALUES
0	0	0	0	0	0	90
0.00	0.00			0.00	0.00	

MAXIMUM = 2.00000E+01
MINIMUM = 5.00000E+00
GEOMETRIC MEAN = 1.03196E+01
GEOMETRIC DEVIATION = 1.37570E+00

A470 GEOCHEMICAL SUMMARY - U S G S STATPAC (01/23/78)

TITLE
Fine Fraction of Seds

FREQUENCY TABLE FOR COLUMN 12 (scr)

LIMITS LOWER - UPPER		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
8.3E+00 -	1.2E+01	0	0	0.00	100.00
1.2E+01 -	1.8E+01	0	0	0.00	100.00
1.8E+01 -	2.6E+01	5	5	5.56	100.00
2.6E+01 -	3.8E+01	2	7	2.22	94.44
3.8E+01 -	5.6E+01	23	30	25.56	92.22
5.6E+01 -	8.3E+01	18	48	20.00	66.67
8.3E+01 -	1.2E+02	17	65	18.89	46.67
1.2E+02 -	1.8E+02	24	89	26.67	27.78
1.8E+02 -	2.6E+02	1	90	1.11	1.11

HISTOGRAM FOR COLUMN 12 (scr)

```
2.0E+01 XXXXXX
3.0E+01 XX
5.0E+01 XXXXXXXXXXXXXXXXXXXXXXXXX
7.0E+01 XXXXXXXXXXXXXXXXXX
1.0E+02 XXXXXXXXXXXXXXXXXX
1.5E+02 XXXXXXXXXXXXXXXXXXXXXXXXX
2.0E+02 X
```

N	L	H	B	T	G	ANALYTICAL VALUES
0	0	0	0	0	0	90
0.00	0.00			0.00	0.00	

MAXIMUM = 2.00000E+02
MINIMUM = 2.00000E+01
GEOMETRIC MEAN = 7.79724E+01
GEOMETRIC DEVIATION = 1.75304E+00

A470 GEOCHEMICAL SUMMARY - U S G S STATPAC (01/23/78)

TITLE
Fine Fraction of Seds

FREQUENCY TABLE FOR COLUMN 13 (scu)

LIMITS LOWER - UPPER		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
3.8E+00 -	5.6E+00	0	0	0.00	98.89
5.6E+00 -	8.3E+00	1	1	1.11	98.89
8.3E+00 -	1.2E+01	6	7	6.67	97.78
1.2E+01 -	1.8E+01	17	24	18.89	91.11
1.8E+01 -	2.6E+01	34	58	37.78	72.22
2.6E+01 -	3.8E+01	24	82	26.67	34.44
3.8E+01 -	5.6E+01	5	87	5.56	7.78
5.6E+01 -	8.3E+01	1	88	1.11	2.22
8.3E+01 -	1.2E+02	1	89	1.11	1.11

HISTOGRAM FOR COLUMN 13 (scu)

```
7.0E+00 X
1.0E+01 XXXXXXX
1.5E+01 XXXXXXXXXXXXXXXXXX
2.0E+01 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
3.0E+01 XXXXXXXXXXXXXXXXXXXXXXXXX
5.0E+01 XXXXXX
7.0E+01 X
1.0E+02 X
```

N	L	H	B	T	G	ANALYTICAL VALUES
1	0	0	0	0	0	89
1.11	0.00			0.00	0.00	

MAXIMUM = 1.00000E+02
MINIMUM = 7.00000E+00
GEOMETRIC MEAN = 2.16549E+01
GEOMETRIC DEVIATION = 1.55463E+00

A470 GEOCHEMICAL SUMMARY - U S G S STATPAC (01/23/78)

TITLE
Fine Fraction of Seds

FREQUENCY TABLE FOR COLUMN 14 (sla)

LIMITS LOWER - UPPER		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
1.8E+01 -	2.6E+01	0	0	0.00	100.00
2.6E+01 -	3.8E+01	0	0	0.00	100.00
3.8E+01 -	5.6E+01	0	0	0.00	100.00
5.6E+01 -	8.3E+01	0	0	0.00	100.00
8.3E+01 -	1.2E+02	6	6	6.67	100.00
1.2E+02 -	1.8E+02	25	31	27.78	93.33
1.8E+02 -	2.6E+02	25	56	27.78	65.56
2.6E+02 -	3.8E+02	19	75	21.11	37.78
3.8E+02 -	5.6E+02	13	88	14.44	16.67
5.6E+02 -	8.3E+02	2	90	2.22	2.22

HISTOGRAM FOR COLUMN 14 (sla)

```
1.0E+02 XXXXXXX
1.5E+02 XXXXXXXXXXXXXXXXXXXXXXXXXX
2.0E+02 XXXXXXXXXXXXXXXXXXXXXXXXXX
3.0E+02 XXXXXXXXXXXXXXXXXXX
5.0E+02 XXXXXXXXXXXXX
7.0E+02 XX
```

N	L	H	B	T	G	ANALYTICAL VALUES
0	0	0	0	0	0	90
0.00	0.00			0.00	0.00	

MAXIMUM = 7.00000E+02
MINIMUM = 1.00000E+02
GEOMETRIC MEAN = 2.25425E+02
GEOMETRIC DEVIATION = 1.62238E+00

A470 GEOCHEMICAL SUMMARY - U S G S STATPAC (01/23/78)

TITLE
Fine Fraction of Seds

FREQUENCY TABLE FOR COLUMN 15 (smo)

LIMITS LOWER - UPPER		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
3.8E+00 -	5.6E+00	7	7	7.78	25.56
5.6E+00 -	8.3E+00	5	12	5.56	17.78
8.3E+00 -	1.2E+01	6	18	6.67	12.22
1.2E+01 -	1.8E+01	4	22	4.44	5.56
1.8E+01 -	2.6E+01	1	23	1.11	1.11

HISTOGRAM FOR COLUMN 15 (smo)

```
       5.0E+00 XXXXXXXX
       7.0E+00 XXXXXX
       1.0E+01 XXXXXXX
       1.5E+01 XXXX
       2.0E+01 X
```

N	L	H	B	T	G	ANALYTICAL VALUES
65	2	0	0	0	0	23
72.22	2.22			0.00	0.00	

MAXIMUM = 2.00000E+01
MINIMUM = 5.00000E+00
GEOMETRIC MEAN = 8.28744E+00
GEOMETRIC DEVIATION = 1.55803E+00

A470 GEOCHEMICAL SUMMARY - U S G S STATPAC (01/23/78)

TITLE
Fine Fraction of Seds

FREQUENCY TABLE FOR COLUMN 16 (snb)

LIMITS LOWER - UPPER		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
1.8E+01 -	2.6E+01	9	9	10.00	14.44
2.6E+01 -	3.8E+01	4	13	4.44	4.44

HISTOGRAM FOR COLUMN 16 (snb)

```
2.0E+01 XXXXXXXXXX
3.0E+01 XXXX
```

N	L	H	B	T	G	ANALYTICAL VALUES
62	15	0	0	0	0	13
68.89	16.67			0.00	0.00	

MAXIMUM = 3.00000E+01
MINIMUM = 2.00000E+01
GEOMETRIC MEAN = 2.26575E+01
GEOMETRIC DEVIATION = 1.21504E+00

A470 GEOCHEMICAL SUMMARY - U S G S STATPAC (01/23/78)

TITLE
Fine Fraction of Seds

FREQUENCY TABLE FOR COLUMN 17 (sni)

LIMITS LOWER - UPPER		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
3.8E+00 -	5.6E+00	6	6	6.67	98.89
5.6E+00 -	8.3E+00	3	9	3.33	92.22
8.3E+00 -	1.2E+01	14	23	15.56	88.89
1.2E+01 -	1.8E+01	26	49	28.89	73.33
1.8E+01 -	2.6E+01	25	74	27.78	44.44
2.6E+01 -	3.8E+01	13	87	14.44	16.67
3.8E+01 -	5.6E+01	1	88	1.11	2.22
5.6E+01 -	8.3E+01	0	88	0.00	1.11
8.3E+01 -	1.2E+02	1	89	1.11	1.11

HISTOGRAM FOR COLUMN 17 (sni)

```
5.0E+00 XXXXXXX
7.0E+00 XXX
1.0E+01 XXXXXXXXXXXXXXX
1.5E+01 XXXXXXXXXXXXXXXXXXXXXXXXXXX
2.0E+01 XXXXXXXXXXXXXXXXXXXXXXXXXX
3.0E+01 XXXXXXXXXXXXX
5.0E+01 X
7.0E+01
1.0E+02 X
```

N	L	H	B	T	G	ANALYTICAL VALUES
0	1	0	0	0	0	89
0.00	1.11			0.00	0.00	

MAXIMUM = 1.00000E+02
MINIMUM = 5.00000E+00
GEOMETRIC MEAN = 1.58222E+01
GEOMETRIC DEVIATION = 1.69304E+00

A470 GEOCHEMICAL SUMMARY - U S G S STATPAC (01/23/78)

TITLE
Fine Fraction of Seds

FREQUENCY TABLE FOR COLUMN 18 (spb)

LIMITS LOWER - UPPER		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
8.3E+00 -	1.2E+01	0	0	0.00	100.00
1.2E+01 -	1.8E+01	0	0	0.00	100.00
1.8E+01 -	2.6E+01	4	4	4.44	100.00
2.6E+01 -	3.8E+01	11	15	12.22	95.56
3.8E+01 -	5.6E+01	34	49	37.78	83.33
5.6E+01 -	8.3E+01	39	88	43.33	45.56
8.3E+01 -	1.2E+02	1	89	1.11	2.22
1.2E+02 -	1.8E+02	0	89	0.00	1.11
1.8E+02 -	2.6E+02	1	90	1.11	1.11

HISTOGRAM FOR COLUMN 18 (spb)

```
2.0E+01 XXXX
3.0E+01 XXXXXXXXXXX
5.0E+01 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
7.0E+01 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
1.0E+02 X
1.5E+02
2.0E+02 X
```

N	L	H	B	T	G	ANALYTICAL VALUES
0	0	0	0	0	0	90
0.00	0.00			0.00	0.00	

MAXIMUM = 2.00000E+02
MINIMUM = 2.00000E+01
GEOMETRIC MEAN = 5.33981E+01
GEOMETRIC DEVIATION = 1.45807E+00

A470 GEOCHEMICAL SUMMARY - U S G S STATPAC (01/23/78)

TITLE
Fine Fraction of Seds

FREQUENCY TABLE FOR COLUMN 19 (ssc)

LIMITS LOWER - UPPER		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
3.8E+00 -	5.6E+00	17	17	18.89	98.89
5.6E+00 -	8.3E+00	9	26	10.00	80.00
8.3E+00 -	1.2E+01	49	75	54.44	70.00
1.2E+01 -	1.8E+01	11	86	12.22	15.56
1.8E+01 -	2.6E+01	3	89	3.33	3.33

HISTOGRAM FOR COLUMN 19 (ssc)

```
5.0E+00 XXXXXXXXXXXXXXXXX
7.0E+00 XXXXXXXXXX
1.0E+01 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
1.5E+01 XXXXXXXXXXX
2.0E+01 XXX
```

N	L	H	B	T	G	ANALYTICAL VALUES
1	0	0	0	0	0	89
1.11	0.00			0.00	0.00	

MAXIMUM = 2.00000E+01
MINIMUM = 5.00000E+00
GEOMETRIC MEAN = 9.09383E+00
GEOMETRIC DEVIATION = 1.44131E+00

A470 GEOCHEMICAL SUMMARY - U S G S STATPAC (01/23/78)

TITLE
Fine Fraction of Seds

FREQUENCY TABLE FOR COLUMN 20 (ssn)

LIMITS LOWER - UPPER		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
8.3E+00 -	1.2E+01	12	12	13.33	30.00
1.2E+01 -	1.8E+01	6	18	6.67	16.67
1.8E+01 -	2.6E+01	5	23	5.56	10.00
2.6E+01 -	3.8E+01	0	23	0.00	4.44
3.8E+01 -	5.6E+01	3	26	3.33	4.44
5.6E+01 -	8.3E+01	0	26	0.00	1.11
8.3E+01 -	1.2E+02	1	27	1.11	1.11

HISTOGRAM FOR COLUMN 20 (ssn)

```
1.0E+01 XXXXXXXXXXXXX
1.5E+01 XXXXXXX
2.0E+01 XXXXXX
3.0E+01
5.0E+01 XXX
7.0E+01
1.0E+02 X
```

N	L	H	B	T	G	ANALYTICAL VALUES
55	8	0	0	0	0	27
61.11	8.89			0.00	0.00	

MAXIMUM = 1.00000E+02
MINIMUM = 1.00000E+01
GEOMETRIC MEAN = 1.62024E+01
GEOMETRIC DEVIATION = 1.86926E+00

A470 GEOCHEMICAL SUMMARY - U S G S STATPAC (01/23/78)

TITLE
Fine Fraction of Seds

FREQUENCY TABLE FOR COLUMN 21 (ssr)

LIMITS LOWER - UPPER		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
8.3E+01 -	1.2E+02	33	33	36.67	98.89
1.2E+02 -	1.8E+02	10	43	11.11	62.22
1.8E+02 -	2.6E+02	36	79	40.00	51.11
2.6E+02 -	3.8E+02	9	88	10.00	11.11
3.8E+02 -	5.6E+02	1	89	1.11	1.11

HISTOGRAM FOR COLUMN 21 (ssr)

```
1.0E+02 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
1.5E+02 XXXXXXXXXXX
2.0E+02 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
3.0E+02 XXXXXXXXXX
5.0E+02 X
```

N	L	H	B	T	G	ANALYTICAL VALUES
1	0	0	0	0	0	89
1.11	0.00			0.00	0.00	

MAXIMUM = 5.00000E+02
MINIMUM = 1.00000E+02
GEOMETRIC MEAN = 1.57635E+02
GEOMETRIC DEVIATION = 1.48925E+00

A470 GEOCHEMICAL SUMMARY - U S G S STATPAC (01/23/78)

TITLE
Fine Fraction of Seds

FREQUENCY TABLE FOR COLUMN 22 (sth)

LIMITS LOWER - UPPER		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
8.3E+01 -	1.2E+02	8	8	8.89	17.78
1.2E+02 -	1.8E+02	6	14	6.67	8.89
1.8E+02 -	2.6E+02	2	16	2.22	2.22

HISTOGRAM FOR COLUMN 22 (sth)

```
1.0E+02 XXXXXXXXX
1.5E+02 XXXXXXX
2.0E+02 XX
```

N	L	H	B	T	G	ANALYTICAL VALUES
73	1	0	0	0	0	16
81.11	1.11			0.00	0.00	

MAXIMUM = 2.00000E+02
MINIMUM = 1.00000E+02
GEOMETRIC MEAN = 1.26959E+02
GEOMETRIC DEVIATION = 1.30053E+00

A470 GEOCHEMICAL SUMMARY - U S G S STATPAC (01/23/78)

TITLE
Fine Fraction of Seds

FREQUENCY TABLE FOR COLUMN 23 (sv)

LIMITS LOWER - UPPER		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
8.3E+00 -	1.2E+01	0	0	0.00	100.00
1.2E+01 -	1.8E+01	0	0	0.00	100.00
1.8E+01 -	2.6E+01	0	0	0.00	100.00
2.6E+01 -	3.8E+01	0	0	0.00	100.00
3.8E+01 -	5.6E+01	6	6	6.67	100.00
5.6E+01 -	8.3E+01	46	52	51.11	93.33
8.3E+01 -	1.2E+02	32	84	35.56	42.22
1.2E+02 -	1.8E+02	6	90	6.67	6.67

HISTOGRAM FOR COLUMN 23 (sv)

```
5.0E+01 XXXXXXX
7.0E+01 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
1.0E+02 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
1.5E+02 XXXXXXX
```

N	L	H	B	T	G	ANALYTICAL VALUES
0	0	0	0	0	0	90
0.00	0.00			0.00	0.00	

MAXIMUM = 1.50000E+02
MINIMUM = 5.00000E+01
GEOMETRIC MEAN = 8.17521E+01
GEOMETRIC DEVIATION = 1.29836E+00

A470 GEOCHEMICAL SUMMARY - U S G S STATPAC (01/23/78)

TITLE
Fine Fraction of Seds

FREQUENCY TABLE FOR COLUMN 24 (sy)

LIMITS LOWER - UPPER		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
8.3E+00 -	1.2E+01	9	9	10.00	100.00
1.2E+01 -	1.8E+01	0	9	0.00	90.00
1.8E+01 -	2.6E+01	15	24	16.67	90.00
2.6E+01 -	3.8E+01	0	24	0.00	73.33
3.8E+01 -	5.6E+01	18	42	20.00	73.33
5.6E+01 -	8.3E+01	24	66	26.67	53.33
8.3E+01 -	1.2E+02	13	79	14.44	26.67
1.2E+02 -	1.8E+02	6	85	6.67	12.22
1.8E+02 -	2.6E+02	4	89	4.44	5.56
2.6E+02 -	3.8E+02	1	90	1.11	1.11

HISTOGRAM FOR COLUMN 24 (sy)

```
1.0E+01 XXXXXXXXXX
1.5E+01
2.0E+01 XXXXXXXXXXXXXXXX
3.0E+01
5.0E+01 XXXXXXXXXXXXXXXXXX
7.0E+01 XXXXXXXXXXXXXXXXXXXXXXXX
1.0E+02 XXXXXXXXXXXX
1.5E+02 XXXXXXX
2.0E+02 XXXX
3.0E+02 X
```

N	L	H	B	T	G	ANALYTICAL VALUES
0	0	0	0	0	0	90
0.00	0.00			0.00	0.00	

MAXIMUM = 3.00000E+02
MINIMUM = 1.00000E+01
GEOMETRIC MEAN = 5.15717E+01
GEOMETRIC DEVIATION = 2.31829E+00

A470 GEOCHEMICAL SUMMARY - U S G S STATPAC (01/23/78)

TITLE
Fine Fraction of Seds

FREQUENCY TABLE FOR COLUMN 26 (szr)

LIMITS LOWER - UPPER		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
8.3E+00 -	1.2E+01	0	0	0.00	100.00
1.2E+01 -	1.8E+01	0	0	0.00	100.00
1.8E+01 -	2.6E+01	0	0	0.00	100.00
2.6E+01 -	3.8E+01	0	0	0.00	100.00
3.8E+01 -	5.6E+01	0	0	0.00	100.00
5.6E+01 -	8.3E+01	0	0	0.00	100.00
8.3E+01 -	1.2E+02	2	2	2.22	100.00
1.2E+02 -	1.8E+02	0	2	0.00	97.78
1.8E+02 -	2.6E+02	1	3	1.11	97.78
2.6E+02 -	3.8E+02	13	16	14.44	96.67
3.8E+02 -	5.6E+02	10	26	11.11	82.22
5.6E+02 -	8.3E+02	16	42	17.78	71.11
8.3E+02 -	1.2E+03	20	62	22.22	53.33

HISTOGRAM FOR COLUMN 26 (szr)

```
1.0E+02 XX
1.5E+02
2.0E+02 X
3.0E+02 XXXXXXXXXXXXX
5.0E+02 XXXXXXXXXX
7.0E+02 XXXXXXXXXXXXXXXXX
1.0E+03 XXXXXXXXXXXXXXXXXXXXX
```

N	L	H	B	T	G	ANALYTICAL VALUES
0	0	0	0	0	28	62
0.00	0.00			0.00	31.11	

MAXIMUM = 1.00000E+03
MINIMUM = 1.00000E+02
GEOMETRIC MEAN = 5.73198E+02
GEOMETRIC DEVIATION = 1.76462E+00

TITLE
Fine Fraction of Seds

IN THE COMPUTATIONS PERFORMED TO PRODUCE THE FOLLOWING TABLE OF GEOMETRIC MEANS AND DEVIATIONS, ALL ELEMENTS ARE IGNORED WHERE ONE OR MORE OF THE UNQUALIFIED DATA VALUES IS LESS THAN THE ANALYTICAL LIMIT OF DETECTION SPECIFIED ON INPUT OR WHERE ANY DATA VALUES ARE QUALIFIED WITH THE G (GREATER THAN) CODE. DATA VALUES QUALIFIED WITH B OR H ARE NOT USED IN THE COMPUTATIONS. WHERE NONE OF THE DATA VALUES FOR AN ELEMENT ARE QUALIFIED THE MEAN AND DEVIATION SHOULD BE THE SAME AS THOSE GIVEN IN THE PRECEDING SECTION. WHERE DATA ARE QUALIFIED WITH THE CODES N, L, OR T, THE ESTIMATES OF GEOMETRIC MEAN AND DEVIATION ARE BASED ON A METHOD BY A. J. COHEN FOR TREATING 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.

ELEMENT	N	L	H	B	T	G	ANALYTICAL VALUES
sfe%	0	0	0	0	0	0	90
smg%	0	0	0	0	0	0	90
sca%	0	0	0	0	0	0	90
sti%	0	0	0	0	0	0	90
smn	0	0	0	0	0	0	90
sb	1	11	0	0	0	0	78
sba	0	0	0	0	0	0	90
sbe	0	0	0	0	0	0	90
sco	0	0	0	0	0	0	90
scr	0	0	0	0	0	0	90
scu	1	0	0	0	0	0	89
sla	0	0	0	0	0	0	90
smo	65	2	0	0	0	0	23
snb	62	15	0	0	0	0	13
sni	0	1	0	0	0	0	89
spb	0	0	0	0	0	0	90
ssc	1	0	0	0	0	0	89
ssn	55	8	0	0	0	0	27
ssr	1	0	0	0	0	0	89
sth	73	1	0	0	0	0	16
sv	0	0	0	0	0	0	90
sy	0	0	0	0	0	0	90
szr	0	0	0	0	0	28	62

TITLE

ELEMENT	GEOMETRIC MEAN	GEOMETRIC DEVIATION	REMARKS
sfe%	3.153799	1.40	90 SAMPLES AND 90 ANALYTICAL VALUES.
smg%	0.576993	1.48	90 SAMPLES AND 90 ANALYTICAL VALUES.
sca%	0.644024	1.43	90 SAMPLES AND 90 ANALYTICAL VALUES.
sti%	0.400438	1.57	90 SAMPLES AND 90 ANALYTICAL VALUES.
smn	584.765671	1.41	90 SAMPLES AND 90 ANALYTICAL VALUES.
sb	14.090618	1.96	12 NOT DETECTED, LESS THAN, OR TRACE VALUES. 78 REPORTED VALUES.
sba	511.847130	1.30	90 SAMPLES AND 90 ANALYTICAL VALUES.
sbe	1.780293	1.34	90 SAMPLES AND 90 ANALYTICAL VALUES.
sco	10.319625	1.38	90 SAMPLES AND 90 ANALYTICAL VALUES.
scr	77.972433	1.75	90 SAMPLES AND 90 ANALYTICAL VALUES.
scu	21.217165	1.62	1 NOT DETECTED, LESS THAN, OR TRACE VALUES. 89 REPORTED VALUES.
sla	225.424795	1.62	90 SAMPLES AND 90 ANALYTICAL VALUES.
smo	1.833997	3.21	67 NOT DETECTED, LESS THAN, OR TRACE VALUES. 23 REPORTED VALUES.
snb	22.658587	1.22	77 NOT DETECTED, LESS THAN, OR TRACE VALUES. 13 REPORTED VALUES.
sni	15.545038	1.73	1 NOT DETECTED, LESS THAN, OR TRACE VALUES. 89 REPORTED VALUES.
spb	53.398067	1.46	90 SAMPLES AND 90 ANALYTICAL VALUES.
ssc	8.993906	1.46	1 NOT DETECTED, LESS THAN, OR TRACE VALUES. 89 REPORTED VALUES.
ssn	4.513763	3.06	63 NOT DETECTED, LESS THAN, OR TRACE VALUES. 27 REPORTED VALUES.
ssr	156.204052	1.50	1 NOT DETECTED, LESS THAN, OR TRACE VALUES. 89 REPORTED VALUES.
sth	42.277738	2.09	74 NOT DETECTED, LESS THAN, OR TRACE VALUES. 16 REPORTED VALUES.
sv	81.752084	1.30	90 SAMPLES AND 90 ANALYTICAL VALUES.
sy	51.571743	2.32	90 SAMPLES AND 90 ANALYTICAL VALUES.
szr	********	******	28 GREATER THAN VALUES. NO COMPUTATIONS.