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ANALYSES OF ROCK AND STREAM-SEDIMENT SAMPLES FROM THE PRINCE RUPERT D-3 QUADRANGLE, SOUTHEASTERN ALASKA

By

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This report is preliminary
and has not been edited or
reviewed for conformity with
Geological Survey standards

Analyses of rock and stream-sediment samples from the Prince Rupert D-3 quadrangle, southeastern Alaska

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Introduction

Analytical data for 22 rock and 63 stream-sediment samples from the Prince Rupert D-3 1:63,360-scale quadrangle are presented in this report, together with a statistical treatment of the data. The samples were collected in 1969 and 1970 in conjunction with reconnaissance geologic mapping in the area.

The most comprehensive discussion of the geology of the study area is a report by A. F. Buddington and Theodore Chapin (1929).

Sampling and analytical procedures

The analytical data for the stream-sediment and rock analyses are given in tables 1 and 3 respectively, and the location of analyzed samples are shown in figure 1.

Standard procedures were followed in the collection and preparation of samples. Stream-sediment samples were generally collected from the active stream channel above the highest high tide level; where this was not possible, samples were collected from bank or terrace deposits adjacent to the channel. The samples were dried, sieved, and the -80 mesh fraction was analyzed.

Rock samples are primarily grab samples from mineralized occurrences or outcrops, or they were chosen from analysis to provide data on background

values. Grab samples were selected because they were strongly iron stained or contained visible sulfides. The rock samples were pulverized and a split was analyzed.

The -80 mesh fractions of stream-sediment samples and the pulverized rock samples were analyzed for 30 elements by the six-step semiquantitative spectrographic method and for gold by the atomic absorption method. The spectrographic analyses were reported in percentage (PCT) or parts per million (PPM) as geometric midpoints (i.e., 1.0, 0.7, 0.5, 0.3, 0.2, 0.15, 0.1, etc.) of geometric brackets having the boundaries 1.2, 0.83, 0.56, 0.38, 0.26, 0.18, 0.12, 0.083, etc. or some multiple of these. The precision of a reported value is approximately plus 100 percent or minus 50 percent. Analyses for gold by the atomic absorption method are accurate to $\pm$ 100 percent. Minimum limits of determination for each element are given on page 3. The semiquantitative spectrographic analyses were done by K. J. Curry and atomic absorption analyses were done by R. L. Miller and A. L. Meier.

Locations of the stream-sediment samples are shown on figure 1. Stream-sediment sample analyses are listed in table 1. Rock sample descrip tions are given in table 2 and analyses listed in table 3.

Explanation of tables 1 and 3

Analytical results from rock and stream-sediment samples are given in tables 1 and 3 as analytical values such as 7.0 ppm, 10.00 percent, etc., or as qualified values expressed as a letter. These letter codes are N = not detected, L = less than specified limit of detection, G = greater than value shown, B = no data, H = interference. The term T is

equal to trace but does not occur in these data. Note that the rightmost zero digits for each analytical value may or may not be significant. Because the original computer printout is used in tables 1 and 3, element symbols are in capital letters; for example, the symbol for iron, Fe, becomes FE, magnesium, Mg, becomes MG, and so on. PCT stands for percent, S for spectrographic, and AA for atomic absorption. The specified limits of detection are as follows:

Lower limits of detection

FE PCT	MG PCT	CA PCT	TI PCT	MN PPM	AG PPM
0.05	0.02	0.05	0.002	20	0.1
AS PPM	AU PPM	B PPM	BA PPM	BE PPM	BI PPM
0.2	0.02	10	20	1	10
CO PPM	CR PPM	CU PPM	LA PPM	MO PPM	NB PPM
5	5	2	20	2	10
NI PPM	PB PPM	SB PPM	SC PPM	SN PPM	SR PPM
2	10	0.5	5	10	50
V PPM	W PPM	Y PPM	ZN PPM	ZR PPM	
5	50	5	25	10	

Analyses of rock and stream-sediment samples were processed by a computer program known as GEOSUM and are presented in tables 1 and 3. The GEOSUM program is designed to summarize and tabulate geochemical data--primarily data from semiquantitative spectrographic analyses (also referred to as six-step spectrographic analyses). The program output consists of: (a) a tabulation of all analytical results, (b) a histogram and frequency distribution table for each element, and (c) a statistical summary for all elements, which includes geometric means and geometric deviations.

Semiquantitative spectrographic analyses by the U.S. Geological Survey are reported as geometric midpoints (e.g., 1.0, 0.7, 0.5, 0.3, 0.2, 0.15, 0.1, etc.) of geometric class intervals having the boundaries 1.2, 0.83, 0.56, 0.38, 0.26, 0.18, 0.12, 0.083, etc. The histograms are on a logarithmic scale and are computed using the class intervals shown below.

Reported value (ppm)	Limits	
1.0	0.83	1.2
1.5	1.2	1.8
2.0	1.8	2.6
3.0	2.6	3.8
5.0	3.8	5.6
7.0	5.6	8.3
10.0	8.3	12.0

Decimal numbers are printed by the computer as powers of 10, for example:

7.0E-01 means 7.0×10^{-1} or 0.7

7.0E 00 means 7.0×10^{0} or 7.0

7.0E 01 means 7.0×10^{1} or 70.0

7.0E 02 means 7.0×10^{2} or 700.0

7.0E 03 means 7.0×10^{3} or 7,000.0

The histograms are constructed of X's; each X represents 1 percent of the total number of samples.

The frequency distribution tables, histograms, and statistics for each element were derived using only data values within the range of analytical determination. If data values qualified with N, L, C, T, or H codes are present, the histograms are incomplete and the frequency

tables and statistics are biased. For example, see the histograms and statistics for molybdenum in table 1, which were calculated from only four samples.

The geometric mean is the antilogarithm of the arithmetic mean of the logarithms of the analyses. It is not an estimate of geochemical abundance. It is an estimate of "central tendency" (or characteristic value) for a frequency distribution that is approximately symmetrical on a logarithmic scale and is, therefore, useful for characterizing many geochemical distributions. The geometric deviation is the antilogarithm of the standard deviation of the logarithms of the analyses.

The statistical summaries at the ends of tables 1 and 3 show which elements have qualified values, as well as the number and type of qualification. The summary also recomputes the geometric mean and standard deviation using a method devised by A. J. Cohen for treating censored distributions. If an element has no qualified data values, the mean and standard deviation will be the same in both this statistical summary and on the page within the table for the particular element. For elements with qualified data, the estimates of mean and standard deviation are unbiased in a strict sense only where the data are derived from a log-normal parent population, but experiments have shown that large departures from this requirement do not usually invalidate the results. Acceptance and use of the estimates, however, is the responsibility of the user.

For further discussion of geometric mean and standard deviation and Cohen's method for censored distributions, see ~~U.S.G.S. Professional Paper 574-B and U.S.G.S. Bulletin 1147-E.~~ Miesch (1963, 1967).

Selected references

Buddington, A. F., and Chapin, Theodore, 1929, Geology and mineral deposits of southeastern Alaska: U.S. Geol. Survey Bull. 800, 398 p.

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

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

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TABLE 1--STREAM-SEDIMENT SAMPLES, PRINCE RUPERT D-3 QUADRANGLE, ALASKA[1/]

	SAMPLE	X-COORD.	Y-COORD.	S-FE %	S-MG %	S-CA %	S-TI %	S-MN	S-AG	AA-AU-P
1	0S940S	379490	95920	15.0	7.0	15.0	1.00G	5000.	0.5N	0.02L
2	0S941S	378950	94495	10.0	2.0	5.0	1.00G	2000.	0.5N	0.02L
3	0S942S	377600	93840	7.0	2.0	5.0	0.70	1500.	0.5N	0.02L
4	0S939S	377080	94590	10.0	1.5	3.0	1.00	2000.	0.5N	0.02L
5	0S938S	376320	94450	7.0	2.0	3.0	0.70	3000.	0.5N	0.02L
6	0S937S	375080	93390	10.0	2.0	3.0	1.00	5000.	0.5N	0.02L
7	0S936S	373900	94300	10.0	3.0	3.0	0.70	5000.	0.5N	0.02L
8	0S943S	375250	92750	5.0	3.0	5.0	0.70	2000.	0.5N	0.02L
9	0S944S	375975	91025	7.0	1.5	1.5	1.00	1000.	0.5N	0.02L
10	0S945S	376050	90395	7.0	2.0	1.5	1.00	700.	0.5N	0.02L
11	0S946S	375760	88250	10.0	2.0	0.5	0.50	5000.G	0.5N	0.02L
12	0S947S	375700	88055	3.0	1.5	1.0	0.50	700.	0.5N	0.02L
13	0S948S	374350	87220	7.0	2.0	0.7	0.50	700.	0.5N	0.02L
14	0S949S	375125	84295	5.0	1.5	2.0	0.30	700.	0.5N	0.02L
15	0S950S	375195	82260	5.0	1.5	2.0	0.30	700.	0.5N	0.02L
16	0S951S	375830	79865	2.0	1.0	15.0	0.20	500.	0.5N	0.02L
17	0S952S	375680	76320	7.0	7.0	10.0	0.30	1500.	0.5N	0.02L
18	0S953S	377100	74400	3.0	1.0	1.5	0.50	500.	0.5N	0.02L
19	0S954S	377790	72880	1.5	0.7	1.0	0.30	200.	0.5N	0.02L
20	0S999S	380800	71400	3.0	1.0	1.0	0.20	2000.	0.5N	0.0 8
21	0S997S	383025	71340	10.0	3.0	1.5	1.00	3000.	0.5N	0.04L
22	0S996S	384450	72300	10.0	2.0	2.0	1.00	1000.	0.5N	0.04L
23	0S995S	386025	74175	5.0	1.5	1.5	1.00	500.	0.5N	0.02L
24	0S994S	385160	75450	7.0	3.0	2.0	1.00	1000.	0.5N	0.02L
25	0S989S	386350	76410	15.0	2.0	3.0	1.00G	5000.	0.5N	0.10L
26	0S993S	384810	77385	10.0	3.0	1.0	1.00	2000.	0.5L	0.10L
27	0S992S	384385	78300	10.0	1.5	1.5	1.00	5000.	0.5N	0.20L
28	0S990S	384260	79300	10.0	3.0	3.0	0.70	1500.	0.5N	0.10L
29	0S991S	384200	79310	10.0	2.0	3.0	1.00G	3000.	0.5N	0.04L
30	0S988S	387000	76460	10.0	2.0	3.0	1.00	1500.	0.5N	0.10L
31	0S987S	387780	75640	15.0	3.0	5.0	1.00G	2000.	0.5L	0.02L
32	0S986S	388570	77400	7.0	3.0	5.0	0.70	3000.	0.5N	0.04L
33	0S968S	389440	77940	7.0	5.0	5.0	1.00	1500.	0.5N	0.02L
34	0S985S	388000	78700	10.0	3.0	5.0	0.70	2000.	0.5N	0.04L
35	0S969S	389150	79665	10.0	5.0	7.0	1.00	2000.	0.5N	0.02L
36	0S984S	388200	80548	7.0	3.0	3.0	0.50	1500.	0.5N	0.02L
37	0S970S	389200	81350	10.0	3.0	5.0	1.00G	2000.	0.5N	0.02L
38	0S983S	388140	81500	15.0	5.0	5.0	1.00	2000.	0.5N	0.02L
39	0S982S	387600	83100	15.0	3.0	5.0	0.70	2000.	0.5N	0.04L
40	0S971S	389100	83090	15.0	5.0	5.0	1.00G	3000.	0.5N	0.02L
41	0S981S	387650	84700	15.0	5.0	10.0	1.00G	3000.	0.5N	0.02L
42	0S972S	389350	84725	7.0	3.0	5.0	0.70	1500.	0.5N	0.02L
43	0S973S	389280	85460	10.0	5.0	5.0	0.70	1500.	0.5N	0.10L
44	0S980S	387300	86530	10.0	7.0	10.0	0.50	2000.	0.5N	0.04L
45	0S979S	387190	88430	10.0	7.0	15.0	0.70	5000.	0.5N	0.10L
46	0S974S	388775	89025	10.0	5.0	5.0	1.00	1500.	0.5N	0.02L
47	0S978S	387250	89250	15.0	7.0	7.0	1.00	5000.	0.5N	0.04L
48	0S975S	388900	91180	10.0	3.0	5.0	0.50	1500.	0.5N	0.04L
49	0S977S	387850	91660	15.0	7.0	3.0	1.00	5000.G	0.5L	0.20L
50	0S976S	388350	91940	7.0	3.0	5.0	0.30	1500.	0.7	0.02L

[1/] The following elements were looked for but if present are below the limits of detectability: As, Sb, W.

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STREAM-SEDIMENT SAMPLES, PRINCE RUPERT D-3 QUADRANGLE, ALASKA

	SAMPLE	X-COORD.	Y-COORD.	S-FE %	S-MG %	S-CA %	S-TI %	S-MN	S-AG	AA-AU-P
51	0S955S	389500	91800	10.0	3.0	5.0	0.70	1500.	0.5N	0.02L
52	0S967S	389810	79800	3.0	1.5	3.0	0.30	700.	0.5N	0.02L
53	0S966S	390360	78800	7.0	3.0	3.0	0.50	1500.	0.5N	0.02L
54	0S965S	391020	77250	7.0	2.0	5.0	1.00	1500.	0.5N	0.02L
55	0S964S	390770	75990	7.0	5.0	5.0	1.00	2000.	0.5N	0.02L
56	0S963S	391285	73815	10.0	5.0	5.0	1.00	3000.	0.5N	0.02L
57	0S962S	391320	73100	10.0	5.0	5.0	1.00	2000.	0.5N	0.02L
58	0S958S	392205	71250	10.0	5.0	7.0	1.00G	2000.	0.5N	0.02L
59	0S957S	391650	69395	10.0	3.0	3.0	1.00	1500.	0.5N	0.02L
60	0S959S	391205	70090	10.0	3.0	5.0	0.70	1000.	0.5N	0.02L
61	0S956S	391290	69350	7.0	3.0	3.0	0.50	1000.	0.5N	0.02L
62	0S960S	389715	69810	7.0	1.5	1.5	0.70	1500.	0.5N	0.02L
63	0S961S	388860	71530	10.0	5.0	5.0	1.00	1500.	0.5N	0.02L

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STREAM-SEDIMENT SAMPLES, PRINCE RUPERT D-3 QUADRANGLE, ALASKA

	SAMPLE	S-B	S-BA	S-BE	S-BI	S-CO	S-CR	S-CU	S-LA	S-MO
1	0S940S	10.	150	1.0L	10.N	30.	500	70.	50.	5.L
2	0S941S	10.	500	1.0	10.N	30.	150	70.	30.	5.N
3	0S942S	10.L	300	1.0	10.N	30.	150	20.	20.L	5.N
4	0S939S	10.	300	1.5	10.N	30.	150	70.	20.	7.
5	0S938S	50.	300	1.0	10.N	30.	150	70.	20.	5.L
6	0S937S	10.	500	1.0	10.N	30.	150	30.	700.	5.L
7	0S936S	10.	300	1.5	10.N	30.	150	100.	200.	5.L
8	0S943S	10.L	300	1.0	10.N	30.	70	20.	20.L	5.N
9	0S944S	10.	300	1.0L	10.N	15.	100	50.	20.N	5.N
10	0S945S	50.	300	1.0L	10.N	20.	100	30.	20.N	5.N
11	0S946S	15.	150	1.0L	10.N	70.	50	100.	20.N	5.N
12	0S947S	30.	300	1.0L	10.N	5.L	30	70.	20.N	5.N
13	0S948S	20.	200	1.0L	10.N	30.	150	50.	20.N	5.N
14	0S949S	10.L	200	1.0L	10.N	15.	70	70.	20.N	5.N
15	0S950S	10.	300	1.0	10.N	15.	70	15.	20.N	5.N
16	0S951S	20.	150	1.0N	10.N	5.	30	100.	20.N	5.N
17	0S952S	10.L	70	1.0L	10.N	30.	300	50.	20.N	5.L
18	0S953S	15.	500	1.0L	10.N	15.	700	30.	20.N	5.N
19	0S954S	15.	300	1.0L	10.N	15.	50	70.	20.N	5.N
20	0S999S	10.N	300	1.0L	10.N	15.	10	10.	20.N	5.N
21	0S997S	15.	300	1.0	10.N	30.	150	20.	20.	5.L
22	0S996S	15.	500	1.0L	10.N	20.	50	20.	20.	5.L
23	0S995S	10.	300	1.0	10.N	15.	70	30.	20.L	5.L
24	0S994S	10.	300	1.0L	10.N	30.	150	30.	20.L	5.L
25	0S989S	10.	1000	1.0L	10.N	30.	70	50.	20.L	5.L
26	0S993S	15.	700	1.0	10.N	30.	70	70.	30.	5.L
27	0S992S	15.	300	1.0L	10.N	30.	70	30.	20.L	5.L
28	0S990S	15.	500	1.0L	10.N	30.	150	30.	20.N	5.L
29	0S991S	15.	500	1.0	10.N	30.	70	70.	20.L	7.
30	0S988S	100.	700	1.0	10.N	30.	100	30.	20.N	5.
31	0S987S	10.	300	1.0L	10.N	30.	150	30.	20.N	5.L
32	0S986S	10.L	300	1.0L	10.N	30.	150	15.	20.L	5.N
33	0S968S	10.	200	1.0N	10.N	30.	150	15.	20.L	5.L
34	0S985S	10.L	200	1.0L	10.N	30.	70	50.	20.N	5.L
35	0S969S	10.	300	1.0L	10.N	30.	150	15.	150.	5.L
36	0S984S	10.L	500	1.5	10.N	20.	150	50.	30.	5.L
37	0S970S	10.	500	1.0L	10.N	30.	150	5.L	100.	5.N
38	0S983S	30.	500	1.0L	10.N	30.	150	20.	30.	5.L
39	0S982S	10.L	300	1.0L	10.N	30.	150	70.	30.	5.L
40	0S971S	10.L	200	1.0L	10.N	30.	150	5.	30.	5.L
41	0S981S	10.L	300	1.0L	10.N	30.	300	70.	20.L	10.
42	0S972S	10.L	700	1.0	10.N	30.	150	15.	20.N	5.L
43	0S973S	10.L	500	1.0	10.N	30.	150	15.	20.N	5.L
44	0S980S	10.L	300	1.0L	10.N	30.	300	50.	100.	5.N
45	0S979S	10.	100	1.0L	10.N	30.	700	30.	30.	5.L
46	0S974S	10.L	300	1.0L	10.N	50.	700	30.	20.L	5.L
47	0S978S	10.	300	1.0L	10.N	50.	500	70.	20.N	5.L
48	0S975S	10.L	700	1.0L	10.N	30.	200	15.	50.	5.L
49	0S977S	10.	300	1.0L	10.N	150.	700	70.	20.N	5.L
50	0S976S	10.	300	1.0	10.N	20.	150	70.	20.N	5.L

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STREAM-SEDIMENT SAMPLES, PRINCE RUPERT D-3 QUADRANGLE, ALASKA

	SAMPLE	S-B	S-BA	S-BE	S-BI	S-CO	S-CR	S-CU	S-LA	S-MO
51	0S955S	10.	700	1.0L	10.N	30.	150	70.	20.L	5.L
52	0S967S	70.	500	1.5	10.N	15.	70	15.	20.N	5.N
53	0S966S	10.	300	1.0L	10.N	20.	200	7.	30.	5.N
54	0S965S	10.L	500	1.0	10.N	20.	70	50.	30.	5.L
55	0S964S	10.L	300	1.5	10.N	30.	150	20.	20.L	5.L
56	0S963S	10.L	300	1.0	10.N	30.	300	30.	100.	5.L
57	0S962S	10.L	500	1.0	10.N	30.	300	20.	20.N	5.L
58	0S958S	10.	300	1.0L	10.N	30.	500	30.	150.	5.L
59	0S957S	10.	150	1.0L	10.N	30.	150	30.	20.N	5.L
60	0S959S	10.L	150	1.0L	10.N	30.	100	10.	20.N	5.L
61	0S956S	10.L	300	1.0N	10.N	30.	150	10.	20.N	5.L
62	0S960S	10.L	150	1.0	10.N	30.	15	15.	20.L	5.N
63	0S961S	10.L	150	1.0	10.N	30.	200	50.	20.L	5.L

DATE 3/10/73

STREAM-SEDIMENT SAMPLES, PRINCE RUPERT D-3 QUADRANGLE, ALASKA

	SAMPLE	S-NB	S-NI	S-PB	S-SC	S-SN	S-SR	S-V	S-Y	S-ZN
1	0S940S	20.	150	20.	70	10.N	1500	500	70.	200.N
2	0S941S	10.	70	30.	30	10.N	700	300	30.	200.N
3	0S942S	10.	50	20.	30	10.N	700	200	30.	200.N
4	0S939S	10.	70	50.	30	10.N	700	300	50.	200.N
5	0S938S	10.	70	30.	30	10.N	700	200	30.	200.N
6	0S937S	10.	30	15.	50	10.N	500	300	70.	200.N
7	0S936S	10.	100	30.	30	10.N	700	300	50.	200.L
8	0S943S	10.	30	15.	30	10.N	700	150	20.	200.N
9	0S944S	10.	30	30.	30	10.N	1000	300	15.	200.N
10	0S945S	10.	50	10.	30	10.N	700	300	20.	200.N
11	0S946S	10.	20	30.	20	10.N	300	200	15.	200.N
12	0S947S	10.	15	30.	15	10.N	500	200	10.	200.N
13	0S948S	10.	70	50.	70	10.N	300	500	20.	200.L
14	0S949S	10.	20	15.	30	10.N	500	200	15.	200.N
15	0S950S	10.	30	15.	30	10.N	500	200	10.	200.N
16	0S951S	10.L	10	30.	10	10.N	1500	70	10.	200.N
17	0S952S	10.L	70	10.	100	10.N	500	200	15.	200.N
18	0S953S	10.L	20	30.	15	10.N	700	150	15.	200.N
19	0S954S	10.N	15	15.	7	10.N	700	70	10.L	200.N
20	0S999S	10.L	5	15.	7	10.N	1000	70	10.L	200.N
21	0S997S	10.	150	20.	30	10.N	700	200	15.	200.N
22	0S996S	10.	30	20.	30	10.N	1000	300	20.	200.N
23	0S995S	10.	15	15.	30	10.N	300	200	20.	200.N
24	0S994S	10.L	30	70.	30	10.N	500	300	30.	2000.
25	0S989S	10.L	30	15.	50	10.N	500	300	50.	200.L
26	0S993S	10.	30	30.	30	10.N	500	300	30.	200.N
27	0S992S	10.	20	20.	30	10.N	500	300	20.	200.N
28	0S990S	10.L	70	15.	30	10.N	700	300	30.	200.L
29	0S991S	15.	30	20.	30	10.N	700	300	30.	200.L
30	0S988S	10.	70	20.	30	10.N	700	300	30.	200.L
31	0S987S	10.	50	15.	50	10.N	700	300	50.	200.N
32	0S986S	10.	50	20.	30	10.N	1000	300	20.	200.N
33	0S968S	10.	70	10.L	70	10.N	500	300	30.	200.N
34	0S985S	10.	30	20.	30	10.N	1000	300	20.	200.N
35	0S969S	10.	70	10.	70	10.N	1000	300	50.	200.N
36	0S984S	10.	30	20.	30	10.N	1000	300	20.	200.N
37	0S970S	10.	50	10.L	70	10.N	700	300	30.	200.N
38	0S983S	15.	70	10.	50	10.N	700	300	30.	200.L
39	0S982S	15.	50	70.	50	10.N	700	300	30.	200.L
40	0S971S	10.L	50	10.	70	10.N	1000	300	50.	200.N
41	0S981S	10.	150	10.	70	10.N	700	500	50.	200.L
42	0S972S	10.	70	20.	30	10.N	1000	200	15.	200.N
43	0S973S	10.L	30	10.	30	10.N	1500	200	15.	200.N
44	0S980S	15.	150	15.	50	10.N	1000	300	50.	200.L
45	0S979S	15.	100	10.	50	10.N	1000	300	50.	200.L
46	0S974S	10.	150	10.L	30	10.N	700	300	15.	200.L
47	0S978S	10.	100	20.	70	10.N	700	500	70.	200.L
48	0S975S	10.L	70	10.L	50	10.N	700	300	20.	200.L
49	0S977S	10.	200	20.	30	10.N	300	300	50.	200.L
50	0S976S	10.	70	15.	30	10.N	700	300	15.	200.L

STREAM-SEDIMENT SAMPLES, PRINCE RUPERT D-3 QUADRANGLE, ALASKA

	SAMPLE	S-NB	S-NI	S-PB	S-SC	S-SN	S-SR	S-V	S-Y	S-ZN
51	0S955S	10.	70	20.	70	10.N	700	300	30.	200.L
52	0S967S	10.L	30	15.	30	10.N	300	150	15.	200.N
53	0S966S	10.	50	15.	30	10.N	500	300	20.	200.N
54	0S965S	10.	30	15.	30	10.N	1000	200	50.	200.N
55	0S964S	15.	100	15.	30	10.N	700	200	30.	200.L
56	0S963S	15.	150	15.	50	10.N	300	300	50.	200.L
57	0S962S	10.	150	15.	30	10.N	700	300	30.	200.L
58	0S958S	15.	100	20.	50	10.N	700	300	70.	200.L
59	0S957S	10.	30	15.	30	10.N	500	300	30.	200.N
60	0S959S	10.	70	10.L	30	10.N	1000	200	15.	200.N
61	0S956S	10.L	100	10.	30	10.N	700	300	15.	200.N
62	0S960S	10.	10	15.	20	10.N	1000	200	15.	200.N
63	0S961S	10.	150	15.	30	10.N	700	300	30.	200.N

STREAM-SEDIMENT SAMPLES, PRINCE RUPERT D-3 QUADRANGLE, ALASKA

	SAMPLE	S-ZR
1	0S940S	200.
2	0S941S	200.
3	0S942S	100.
4	0S939S	500.
5	0S938S	300.
6	0S937S	1000.
7	0S936S	200.
8	0S943S	70.
9	0S944S	70.
10	0S945S	200.
11	0S946S	100.
12	0S947S	70.
13	0S948S	70.
14	0S949S	70.
15	0S950S	70.
16	0S951S	50.
17	0S952S	30.
18	0S953S	70.
19	0S954S	70.
20	0S999S	70.
21	0S997S	150.
22	0S996S	70.
23	0S995S	150.
24	0S994S	70.
25	0S989S	150.
26	0S993S	200.
27	0S992S	150.
28	0S990S	70.
29	0S991S	70.
30	0S988S	100.
31	0S987S	300.
32	0S986S	100.
33	0S968S	200.
34	0S985S	150.
35	0S969S	150.
36	0S984S	70.
37	0S970S	200.
38	0S983S	150.
39	0S982S	150.
40	0S971S	1000.G
41	0S981S	70.
42	0S972S	150.
43	0S973S	100.
44	0S980S	100.
45	0S979S	150.
46	0S974S	70.
47	0S978S	100.
48	0S975S	70.
49	0S977S	150.
50	0S976S	50.

STREAM-SEDIMENT SAMPLES, PRINCE RUPERT D-3 QUADRANGLE, ALASKA

	SAMPLE	S-ZR
51	0S955S	100.
52	0S967S	100.
53	0S966S	300.
54	0S965S	700.
55	0S964S	150.
56	0S963S	500.
57	0S962S	150.
58	0S958S	300.
59	0S957S	70.
60	0S959S	100.
61	0S956S	300.
62	0S960S	200.
63	0S961S	150.

TITLE
STREAM-SEDIMENT SAMPLES, PRINC

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

A470 GEOCHEMICAL SUMMARY - U S G S STATPAC (08/02/71) DATE 12/26/72

TITLE
STREAM-SEDIMENT SAMPLES, PRINC

THE MAX AND MIN 0.70000E 00 FOR S-Ag ARE THE SAME. THEREFORE THIS VARIABLE WILL BE SKIPPED.

VARIABLE AA-Au-P CONTAINS NO VALID DATA POINTS. THEREFORE THIS VARIABLE WILL BE SKIPPED.

VARIABLE S-BI CONTAINS NO VALID DATA POINTS. THEREFORE THIS VARIABLE WILL BE SKIPPED.

VARIABLE S-SN CONTAINS NO VALID DATA POINTS. THEREFORE THIS VARIABLE WILL BE SKIPPED.

THE MAX AND MIN 0.20000E 04 FOR VARIABLE S-ZN ARE THE SAME. THEREFORE THIS VARIABLE WILL BE SKIPPED.

TITLE
STREAM-SEDIMENT SAMPLES, PRINC

FREQUENCY TABLE FOR COLUMN 4 (S-FE %)

LIMITS LOWER - UPPER		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
1.2E 00 -	1.8E 00	1	1	1.59	1.59
1.8E 00 -	2.6E 00	1	2	1.59	3.17
2.6E 00 -	3.8E 00	4	6	6.35	9.52
3.8E 00 -	5.6E 00	4	10	6.35	15.87
5.6E 00 -	8.3E 00	17	27	26.98	42.86
8.3E 00 -	1.2E 01	27	54	42.86	85.71
1.2E 01 -	1.8E 01	9	63	14.29	100.00

HISTOGRAM FOR COLUMN 4 (S-FE %)

```
1.5E 00 XX
2.0E 00 XX
3.0E 00 XXXXXX
5.0E 00 XXXXXX
7.0E 00 XXXXXXXXXXXXXXXXXXXXXXXXX
1.0E 01 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
1.5E 01 XXXXXXXXXXXXX
```

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

MAXIMUM = 1.50000E 01
MINIMUM = 1.50000E 00
GEOMETRIC MEAN = 8.06984E 00
GEOMETRIC DEVIATION = 1.62614E 00

TITLE
STREAM-SEDIMENT SAMPLES, PRINC

FREQUENCY TABLE FOR COLUMN 5 (S-MG %)

LIMITS LOWER - UPPER		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
5.6E-01 -	8.3E-01	1	1	1.59	1.59
8.3E-01 -	1.2E 00	3	4	4.76	6.35
1.2E 00 -	1.8E 00	9	13	14.29	20.63
1.8E 00 -	2.6E 00	12	25	19.05	39.68
2.6E 00 -	3.8E 00	20	45	31.75	71.43
3.8E 00 -	5.6E 00	12	57	19.05	90.48
5.6E 00 -	8.3E 00	6	63	9.52	100.00

HISTOGRAM FOR COLUMN 5 (S-MG %)

```
       7.0E-01 XX
       1.0E 00 XXXXX
       1.5E 00 XXXXXXXXXXXXX
       2.0E 00 XXXXXXXXXXXXXXXXXX
       3.0E 00 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
       5.0E 00 XXXXXXXXXXXXXXXXXX
       7.0E 00 XXXXXXXXXX
```

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

MAXIMUM = 7.00000E 00
MINIMUM = 7.00000E-01
GEOMETRIC MEAN = 2.78691E 00
GEOMETRIC DEVIATION = 1.74284E 00

TITLE
STREAM-SEDIMENT SAMPLES, PRINC

FREQUENCY TABLE FOR COLUMN 6 (S-CA %)

LIMITS LOWER - UPPER		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
3.8E-01 -	5.6E-01	1	1	1.59	1.59
5.6E-01 -	8.3E-01	1	2	1.59	3.17
8.3E-01 -	1.2E 00	4	6	6.35	9.52
1.2E 00 -	1.8E 00	7	13	11.11	20.63
1.8E 00 -	2.6E 00	4	17	6.35	26.98
2.6E 00 -	3.8E 00	14	31	22.22	49.21
3.8E 00 -	5.6E 00	23	54	36.51	85.71
5.6E 00 -	8.3E 00	3	57	4.76	90.48
8.3E 00 -	1.2E 01	3	60	4.76	95.24
1.2E 01 -	1.8E 01	3	63	4.76	100.00

HISTOGRAM FOR COLUMN 6 (S-CA %)

```
5.0E-01 XX
7.0E-01 XX
1.0E 00 XXXXXX
1.5E 00 XXXXXXXXXX
2.0E 00 XXXXXX
3.0E 00 XXXXXXXXXXXXXXXXXXXX
5.0E 00 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
7.0E 00 XXXXX
1.0E 01 XXXXX
1.5E 01 XXXXX
```

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

MAXIMUM = 1.50000E 01
MINIMUM = 5.00000E-01
GEOMETRIC MEAN = 3.43961E 00
GEOMETRIC DEVIATION = 2.08045E 00

TITLE
STREAM-SEDIMENT SAMPLES, PRINC

FREQUENCY TABLE FOR COLUMN 7 (S-TI %)

LIMITS LOWER	- UPPER	FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
1.8E-01 -	2.6E-01	2	2	3.17	3.17
2.6E-01 -	3.8E-01	6	8	9.52	12.70
3.8E-01 -	5.6E-01	9	17	14.29	26.98
5.6E-01 -	8.3E-01	14	31	22.22	49.21
8.3E-01 -	1.2E 00	23	54	36.51	85.71

HISTOGRAM FOR COLUMN 7 (S-TI %)

```
2.0E-01 XXX
3.0E-01 XXXXXXXXXX
5.0E-01 XXXXXXXXXXXXX
7.0E-01 XXXXXXXXXXXXXXXXXXXXX
1.0E 00 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
```

N	L	H	B	T	G	ANALYTICAL VALUES
0	0	0	0	0	9	54
0.0	0.0			0.0	14.29	

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MAXIMUM = 1.00000E 00
MINIMUM = 2.00000E-01
GEOMETRIC MEAN = 6.69397E-01
GEOMETRIC DEVIATION = 1.58630E 00

TITLE
STREAM-SEDIMENT SAMPLES, PRINC

FREQUENCY TABLE FOR COLUMN 8 (S-MN)

LIMITS LOWER - UPPER		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
1.8E 02 -	2.6E 02	1	1	1.59	1.59
2.6E 02 -	3.8E 02	0	1	0.0	1.59
3.8E 02 -	5.6E 02	3	4	4.76	6.35
5.6E 02 -	8.3E 02	6	10	9.52	15.87
8.3E 02 -	1.2E 03	5	15	7.94	23.81
1.2E 03 -	1.8E 03	17	32	26.98	50.79
1.8E 03 -	2.6E 03	15	47	23.81	74.60
2.6E 03 -	3.8E 03	7	54	11.11	85.71
3.8E 03 -	5.6E 03	7	61	11.11	96.83

HISTOGRAM FOR COLUMN 8 (S-MN)

```
2.0E 02 XX
3.0E 02
5.0E 02 XXXXX
7.0E 02 XXXXXXXXXX
1.0E 03 XXXXXXXX
1.5E 03 XXXXXXXXXXXXXXXXXXXXXXXXXX
2.0E 03 XXXXXXXXXXXXXXXXXXXXXX
3.0E 03 XXXXXXXXXX
5.0E 03 XXXXXXXXXX
```

N	L	H	B	T	G	ANALYTICAL VALUES
0	0	0	0	0	2	61
0.0	0.0			0.0	3.17	

MAXIMUM = 5.00000E 03
MINIMUM = 2.00000E 02
GEOMETRIC MEAN = 1.64647E 03
GEOMETRIC DEVIATION = 1.93638E 00

TITLE
STREAM-SEDIMENT SAMPLES, PRINC

FREQUENCY TABLE FOR COLUMN 11 (S-B)

LIMITS LOWER - UPPER		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
8.3E 00 -	1.2E 01	22	22	34.92	34.92
1.2E 01 -	1.8E 01	9	31	14.29	49.21
1.8E 01 -	2.6E 01	2	33	3.17	52.38
2.6E 01 -	3.8E 01	2	35	3.17	55.56
3.8E 01 -	5.6E 01	2	37	3.17	58.73
5.6E 01 -	8.3E 01	1	38	1.59	60.32
8.3E 01 -	1.2E 02	1	39	1.59	61.90

HISTOGRAM FOR COLUMN 11 (S-B)

```
1.0E 01 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
1.5E 01 XXXXXXXXXXXXXX
2.0E 01 XXX
3.0E 01 XXX
5.0E 01 XXX
7.0E 01 XX
1.0E 02 XX
```

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N	L	H	B	T	G	ANALYTICAL VALUES
1	23	0	0	0	0	39
1.59	36.51			0.0	0.0	

MAXIMUM = 1.00000E 02
MINIMUM = 1.00000E 01
GEOMETRIC MEAN = 1.45777E 01
GEOMETRIC DEVIATION = 1.81829E 00

TITLE
STREAM-SEDIMENT SAMPLES, PRINC

FREQUENCY TABLE FOR COLUMN 12 (S-BA)

LIMITS LOWER - UPPER		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
5.6E 01 -	8.3E 01	1	1	1.59	1.59
8.3E 01 -	1.2E 02	1	2	1.59	3.17
1.2E 02 -	1.8E 02	7	9	11.11	14.29
1.8E 02 -	2.6E 02	5	14	7.94	22.22
2.6E 02 -	3.8E 02	30	44	47.62	69.84
3.8E 02 -	5.6E 02	13	57	20.63	90.48
5.6E 02 -	8.3E 02	5	62	7.94	98.41
8.3E 02 -	1.2E 03	1	63	1.59	100.00

HISTOGRAM FOR COLUMN 12 (S-BA)

```
       7.0E 01 XX
       1.0E 02 XX
       1.5E 02 XXXXXXXXXX
       2.0E 02 XXXXXXXX
       3.0E 02 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
       5.0E 02 XXXXXXXXXXXXXXXXXXX
       7.0E 02 XXXXXXXX
       1.0E 03 XX
```

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

MAXIMUM = 1.00000E 03
MINIMUM = 7.00000E 01
GEOMETRIC MEAN = 3.12872E 02
GEOMETRIC DEVIATION = 1.65747E 00

TITLE
STREAM-SEDIMENT SAMPLES, PRINC

FREQUENCY TABLE FOR COLUMN 13 (S-BE)

LIMITS LOWER - UPPER		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
8.3E-01 -	1.2E 00	19	19	30.16	30.16
1.2E 00 -	1.8E 00	5	24	7.94	38.10

HISTOGRAM FOR COLUMN 13 (S-BE)

1.0E 00 XXXXXXXXXXXXXXXXXXXXXXXXXXXXX
1.5E 00 XXXXXXXX

N	L	H	B	T	G	ANALYTICAL VALUES
3	36	0	0	0	0	24
4.76	57.14			0.0	0.0	

MAXIMUM = 1.50000E 00
MINIMUM = 1.00000E 00
GEOMETRIC MEAN = 1.08814E 00
GEOMETRIC DEVIATION = 1.18318E 00

TITLE
STREAM-SEDIMENT SAMPLES, PRINC

FREQUENCY TABLE FOR COLUMN 15 (S-CO)

LIMITS LOWER - UPPER	FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
3.8E 00 - 5.6E 00	1	1	1.59	1.59
5.6E 00 - 8.3E 00	0	1	0.0	1.59
8.3E 00 - 1.2E 01	0	1	0.0	1.59
1.2E 01 - 1.8E 01	8	9	12.70	14.29
1.8E 01 - 2.6E 01	6	15	9.52	23.81
2.6E 01 - 3.8E 01	43	58	68.25	92.06
3.8E 01 - 5.6E 01	2	60	3.17	95.24
5.6E 01 - 8.3E 01	1	61	1.59	96.83
8.3E 01 - 1.2E 02	0	61	0.0	96.83
1.2E 02 - 1.8E 02	1	62	1.59	98.41

HISTOGRAM FOR COLUMN 15 (S-CO)

```
5.0E 00 XX
7.0E 00
1.0E 01
1.5E 01 XXXXXXXXXXXXX
2.0E 01 XXXXXXXXXX
3.0E 01 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
5.0E 01 XXX
7.0E 01 XX
1.0E 02
1.5E 02 XX
```

N	L	H	B	T	G	ANALYTICAL VALUES
0	1	0	0	0	0	62
0.0	1.59			0.0	0.0	

MAXIMUM = 1.50000E 02
MINIMUM = 5.00000E 00
GEOMETRIC MEAN = 2.71047E 01
GEOMETRIC DEVIATION = 1.53604E 00

TITLE
STREAM-SEDIMENT SAMPLES, PRINC

FREQUENCY TABLE FOR COLUMN 16 (S-CR)

LIMITS LOWER	- UPPER	FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
8.3E 00 -	1.2E 01	1	1	1.59	1.59
1.2E 01 -	1.8E 01	1	2	1.59	3.17
1.8E 01 -	2.6E 01	0	2	0.0	3.17
2.6E 01 -	3.8E 01	2	4	3.17	6.35
3.8E 01 -	5.6E 01	3	7	4.76	11.11
5.6E 01 -	8.3E 01	11	18	17.46	28.57
8.3E 01 -	1.2E 02	4	22	6.35	34.92
1.2E 02 -	1.8E 02	26	48	41.27	76.19
1.8E 02 -	2.6E 02	3	51	4.76	80.95
2.6E 02 -	3.8E 02	5	56	7.94	88.89
3.8E 02 -	5.6E 02	3	59	4.76	93.65
5.6E 02 -	8.3E 02	4	63	6.35	100.00

HISTOGRAM FOR COLUMN 16 (S-CR)

```
1.0E 01 XX
1.5E 01 XX
2.0E 01
3.0E 01 XXX
5.0E 01 XXXXX
7.0E 01 XXXXXXXXXXXXXXXX
1.0E 02 XXXXXX
1.5E 02 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
2.0E 02 XXXXX
3.0E 02 XXXXXXXX
5.0E 02 XXXXX
7.0E 02 XXXXXX
```

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

MAXIMUM = 7.00000E 02
MINIMUM = 1.00000E 01
GEOMETRIC MEAN = 1.33314E 02
GEOMETRIC DEVIATION = 2.32425E 00

TITLE
STREAM-SEDIMENT SAMPLES, PRINC

FREQUENCY TABLE FOR COLUMN 17 (S-CU)

LIMITS LOWER - UPPER		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
3.8E 00 -	5.6E 00	1	1	1.59	1.59
5.6E 00 -	8.3E 00	1	2	1.59	3.17
8.3E 00 -	1.2E 01	3	5	4.76	7.94
1.2E 01 -	1.8E 01	9	14	14.29	22.22
1.8E 01 -	2.6E 01	7	21	11.11	33.33
2.6E 01 -	3.8E 01	14	35	22.22	55.56
3.8E 01 -	5.6E 01	9	44	14.29	69.84
5.6E 01 -	8.3E 01	15	59	23.81	93.65
8.3E 01 -	1.2E 02	3	62	4.76	98.41

HISTOGRAM FOR COLUMN 17 (S-CU)

```
5.0E 00 XX
7.0E 00 XX
1.0E 01 XXXXX
1.5E 01 XXXXXXXXXXXXX
2.0E 01 XXXXXXXXXX
3.0E 01 XXXXXXXXXXXXXXXXXXXXX
5.0E 01 XXXXXXXXXXXXX
7.0E 01 XXXXXXXXXXXXXXXXXXXXXXXX
1.0E 02 XXXXX
```

N	L	H	B	T	G	ANALYTICAL VALUES
0	1	0	0	0	0	62
0.0	1.59			0.0	0.0	

MAXIMUM = 1.00000E 02
MINIMUM = 5.00000E 00
GEOMETRIC MEAN = 3.26764E 01
GEOMETRIC DEVIATION = 2.05018E 00

TITLE
STREAM-SEDIMENT SAMPLES, PRINC

FREQUENCY TABLE FOR COLUMN 18 (S-LA)

LIMITS LOWER	- UPPER	FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
1.8E 01 -	2.6E 01	4	4	6.35	6.35
2.6E 01 -	3.8E 01	9	13	14.29	20.63
3.8E 01 -	5.6E 01	2	15	3.17	23.81
5.6E 01 -	8.3E 01	0	15	0.0	23.81
8.3E 01 -	1.2E 02	3	18	4.76	28.57
1.2E 02 -	1.8E 02	2	20	3.17	31.75
1.8E 02 -	2.6E 02	1	21	1.59	33.33
2.6E 02 -	3.8E 02	0	21	0.0	33.33
3.8E 02 -	5.6E 02	0	21	0.0	33.33
5.6E 02 -	8.3E 02	1	22	1.59	34.92

HISTOGRAM FOR COLUMN 18 (S-LA)

```
2.0E 01 XXXXXX
3.0E 01 XXXXXXXXXXXXXX
5.0E 01 XXX
7.0E 01
1.0E 02 XXXXX
1.5E 02 XXX
2.0E 02 XX
3.0E 02
5.0E 02
7.0E 02 XX
```

N	L	H	B	T	G	ANALYTICAL VALUES
26	15	0	0	0	0	22
41.27	23.81			0.0	0.0	

MAXIMUM = 7.00000E 02
MINIMUM = 2.00000E 01
GEOMETRIC MEAN = 5.00890E 01
GEOMETRIC DEVIATION = 2.55312E 00

TITLE
STREAM-SEDIMENT SAMPLES, PRINC

FREQUENCY TABLE FOR COLUMN 19 (S-MO)

LIMITS LOWER - UPPER		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
3.8E 00 -	5.6E 00	1	1	1.59	1.59
5.6E 00 -	8.3E 00	2	3	3.17	4.76
8.3E 00 -	1.2E 01	1	4	1.59	6.35

HISTOGRAM FOR COLUMN 19 (S-MO)

```
5.0E 00 XX
7.0E 00 XXX
1.0E 01 XX
```

N	L	H	B	T	G	ANALYTICAL VALUES
20	39	0	0	0	0	4
31.75	61.90			0.0	0.0	

MAXIMUM = 1.00000E 01
MINIMUM = 5.00000E 00
GEOMETRIC MEAN = 7.03543E 00
GEOMETRIC DEVIATION = 1.32716E 00

TITLE
STREAM-SEDIMENT SAMPLES, PRINC

FREQUENCY TABLE FOR COLUMN 20 (S-NB)

LIMITS LOWER - UPPER	FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
8.3E 00 - 1.2E 01	41	41	65.08	65.08
1.2E 01 - 1.8E 01	8	49	12.70	77.78
1.8E 01 - 2.6E 01	1	50	1.59	79.37

HISTOGRAM FOR COLUMN 20 (S-NB)

```
1.0E 01 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
1.5E 01 XXXXXXXXXXXXX
2.0E 01 XX
```

N	L	H	B	T	G	ANALYTICAL VALUES
1	12	0	0	0	0	50
1.59	19.05			0.0	0.0	

MAXIMUM = 2.00000E 01
MINIMUM = 1.00000E 01
GEOMETRIC MEAN = 1.08189E 01
GEOMETRIC DEVIATION = 1.19037E 00

TITLE
STREAM-SEDIMENT SAMPLES, PRINC

FREQUENCY TABLE FOR COLUMN 21 (S-NI)

LIMITS LOWER - UPPER		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
3.8E 00 -	5.6E 00	1	1	1.59	1.59
5.6E 00 -	8.3E 00	0	1	0.0	1.59
8.3E 00 -	1.2E 01	2	3	3.17	4.76
1.2E 01 -	1.8E 01	3	6	4.76	9.52
1.8E 01 -	2.6E 01	4	10	6.35	15.87
2.6E 01 -	3.8E 01	15	25	23.81	39.68
3.8E 01 -	5.6E 01	8	33	12.70	52.38
5.6E 01 -	8.3E 01	15	48	23.81	76.19
8.3E 01 -	1.2E 02	6	54	9.52	85.71
1.2E 02 -	1.8E 02	8	62	12.70	98.41
1.8E 02 -	2.6E 02	1	63	1.59	100.00

HISTOGRAM FOR COLUMN 21 (S-NI)

```
5.0E 00 XX
7.0E 00
1.0E 01 XXX
1.5E 01 XXXXX
2.0E 01 XXXXXX
3.0E 01 XXXXXXXXXXXXXXXXXXXXXXX
5.0E 01 XXXXXXXXXXXX
7.0E 01 XXXXXXXXXXXXXXXXXXXXXXX
1.0E 02 XXXXXXXXX
1.5E 02 XXXXXXXXXXXX
2.0E 02 XX
```

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

MAXIMUM = 2.00000E 02
MINIMUM = 5.00000E 00
GEOMETRIC MEAN = 4.91496E 01
GEOMETRIC DEVIATION = 2.19335E 00

TITLE
STREAM-SEDIMENT SAMPLES, PRINC

FREQUENCY TABLE FOR COLUMN 22 (S-PB)

LIMITS LOWER - UPPER		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
8.3E 00 -	1.2E 01	9	9	14.29	14.29
1.2E 01 -	1.8E 01	21	30	33.33	47.62
1.8E 01 -	2.6E 01	15	45	23.81	71.43
2.6E 01 -	3.8E 01	9	54	14.29	85.71
3.8E 01 -	5.6E 01	2	56	3.17	88.89
5.6E 01 -	8.3E 01	2	58	3.17	92.06

HISTOGRAM FOR COLUMN 22 (S-PB)

```
1.0E 01 XXXXXXXXXXXXX
1.5E 01 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
2.0E 01 XXXXXXXXXXXXXXXXXXXXXX
3.0E 01 XXXXXXXXXXXXX
5.0E 01 XXX
7.0E 01 XXX
```

N	L	H	B	T	G	ANALYTICAL VALUES
0	5	0	0	0	0	58
0.0	7.94			0.0	0.0	

MAXIMUM = 7.00000E 01
MINIMUM = 1.00000E 01
GEOMETRIC MEAN = 1.85731E 01
GEOMETRIC DEVIATION = 1.58354E 00

TITLE
STREAM-SEDIMENT SAMPLES, PRINC

FREQUENCY TABLE FOR COLUMN 23 (S-SC)

LIMITS LOWER - UPPER		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
5.6E 01 -	8.3E 01	9	9	14.29	14.29
8.3E 01 -	1.2E 02	1	10	1.59	15.87

HISTOGRAM FOR COLUMN 23 (S-SC)

7.0E 01 XXXXXXXXXXXXX
1.0E 02 XX

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

MAXIMUM = 1.00000E 02
MINIMUM = 7.00000E 00
GEOMETRIC MEAN = 3.39165E 01
GEOMETRIC DEVIATION = 1.67010E 00

TITLE
STREAM-SEDIMENT SAMPLES, PRINC

FREQUENCY TABLE FOR COLUMN 25 (S-SR)

LIMITS LOWER - UPPER		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
2.6E 02 -	3.8E 02	6	6	9.52	9.52
3.8E 02 -	5.6E 02	12	18	19.05	28.57
5.6E 02 -	8.3E 02	28	46	44.44	73.02
8.3E 02 -	1.2E 03	14	60	22.22	95.24
1.2E 03 -	1.8E 03	3	63	4.76	100.00

HISTOGRAM FOR COLUMN 25 (S-SR)

```
3.0E 02 XXXXXXXXXX
5.0E 02 XXXXXXXXXXXXXXXXXX
7.0E 02 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
1.0E 03 XXXXXXXXXXXXXXXXXXXX
1.5E 03 XXXXX
```

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

MAXIMUM = 1.50000E 03
MINIMUM = 3.00000E 02
GEOMETRIC MEAN = 6.79824E 02
GEOMETRIC DEVIATION = 1.46785E 00

TITLE
STREAM-SEDIMENT SAMPLES, PRINC

FREQUENCY TABLE FOR COLUMN 26 (S-V)

LIMITS LOWER - UPPER	FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
5.6E 01 - 8.3E 01	3	3	4.76	4.76
8.3E 01 - 1.2E 02	0	3	0.0	4.76
1.2E 02 - 1.8E 02	3	6	4.76	9.52
1.8E 02 - 2.6E 02	15	21	23.81	33.33
2.6E 02 - 3.8E 02	38	59	60.32	93.65
3.8E 02 - 5.6E 02	4	63	6.35	100.00

HISTOGRAM FOR COLUMN 26 (S-V)

```
7.0E 01 XXXXX
1.0E 02
1.5E 02 XXXXX
2.0E 02 XXXXXXXXXXXXXXXXXXXXXXX
3.0E 02 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
5.0E 02 XXXXXX
```

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

MAXIMUM = 5.00000E 02
MINIMUM = 7.00000E 01
GEOMETRIC MEAN = 2.54004E 02
GEOMETRIC DEVIATION = 1.48088E 00

TITLE
STREAM-SEDIMENT SAMPLES, PRINC

FREQUENCY TABLE FOR COLUMN 27 (S-Y)

LIMITS LOWER - UPPER		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
8.3E 00 -	1.2E 01	3	3	4.76	4.76
1.2E 01 -	1.8E 01	14	17	22.22	26.98
1.8E 01 -	2.6E 01	11	28	17.46	44.44
2.6E 01 -	3.8E 01	17	45	26.98	71.43
3.8E 01 -	5.6E 01	12	57	19.05	90.48
5.6E 01 -	8.3E 01	4	61	6.35	96.83

HISTOGRAM FOR COLUMN 27 (S-Y)

```
1.0E 01 XXXXX
1.5E 01 XXXXXXXXXXXXXXXXXXXX
2.0E 01 XXXXXXXXXXXXXXXX
3.0E 01 XXXXXXXXXXXXXXXXXXXXXXXXXX
5.0E 01 XXXXXXXXXXXXXXXXXX
7.0E 01 XXXXXX
```

N	L	H	B	T	G	ANALYTICAL VALUES
0	2	0	0	0	0	61
0.0	3.17			0.0	0.0	

MAXIMUM = 7.00000E 01
MINIMUM = 1.00000E 01
GEOMETRIC MEAN = 2.63377E 01
GEOMETRIC DEVIATION = 1.70625E 00

TITLE
STREAM-SEDIMENT SAMPLES, PRINC

FREQUENCY TABLE FOR COLUMN 29 (S-ZR)

LIMITS LOWER - UPPER		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
2.6E 01 -	3.8E 01	1	1	1.59	1.59
3.8E 01 -	5.6E 01	2	3	3.17	4.76
5.6E 01 -	8.3E 01	18	21	28.57	33.33
8.3E 01 -	1.2E 02	10	31	15.87	49.21
1.2E 02 -	1.8E 02	14	45	22.22	71.43
1.8E 02 -	2.6E 02	8	53	12.70	84.13
2.6E 02 -	3.8E 02	5	58	7.94	92.06
3.8E 02 -	5.6E 02	2	60	3.17	95.24
5.6E 02 -	8.3E 02	1	61	1.59	96.83
8.3E 02 -	1.2E 03	1	62	1.59	98.41

HISTOGRAM FOR COLUMN 29 (S-ZR)

```
3.0E 01 XX
5.0E 01 XXX
7.0E 01 XXXXXXXXXXXXXXXXXXXXXXXXXXXX
1.0E 02 XXXXXXXXXXXXXXX
1.5E 02 XXXXXXXXXXXXXXXXXXXXX
2.0E 02 XXXXXXXXXXXXX
3.0E 02 XXXXXXXX
5.0E 02 XXX
7.0E 02 XX
1.0E 03 XX
```

N	L	H	B	T	G	ANALYTICAL VALUES
0	0	0	0	0	1	62
0.0	0.0			0.0	1.59	

MAXIMUM = 1.00000E 03
MINIMUM = 3.00000E 01
GEOMETRIC MEAN = 1.27723E 02
GEOMETRIC DEVIATION = 1.95556E 00

TITLE
STREAM-SEDIMENT SAMPLES, PRINC

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
S-FE	%	0	0	0	0	0	0	63
S-MG	%	0	0	0	0	0	0	63
S-CA	%	0	0	0	0	0	0	63
S-TI	%	0	0	0	0	0	9	54
S-MN		0	0	0	0	0	2	61
S-B		1	23	0	0	0	0	39
S-BA		0	0	0	0	0	0	63
S-BE		3	36	0	0	0	0	24
S-CO		0	1	0	0	0	0	62
S-CR		0	0	0	0	0	0	63
S-CU		0	1	0	0	0	0	62
S-LA		26	15	0	0	0	0	22
S-MO		20	39	0	0	0	0	4
S-NB		1	12	0	0	0	0	50
S-NI		0	0	0	0	0	0	63
S-PB		0	5	0	0	0	0	58
S-SC		0	0	0	0	0	0	63
S-SR		0	0	0	0	0	0	63
S-V		0	0	0	0	0	0	63
S-Y		0	2	0	0	0	0	61
S-ZR		0	0	0	0	0	1	62

ELEMENT		GEOMETRIC MEAN	GEOMETRIC DEVIATION	REMARKS
S-FE	%	8.069834	1.63	63 SAMPLES AND 63 ANALYTICAL VALUES.
S-MG	%	2.786905	1.74	63 SAMPLES AND 63 ANALYTICAL VALUES.
S-CA	%	3.439608	2.08	63 SAMPLES AND 63 ANALYTICAL VALUES.
S-TI	%	********	******	9 GREATER THAN VALUES. NO COMPUTATIONS.
S-MN		********	******	2 GREATER THAN VALUES. NO COMPUTATIONS.
S-B		********	******	COHEN'S TABLE EXCEEDED. H(0.4) OR GAMMA(1.1) GTR THAN ALLOW. NO COMPUTATIONS.
S-BA		312.871094	1.66	63 SAMPLES AND 63 ANALYTICAL VALUES.
S-BE		0.747691	1.44	39 NOT DETECTED, LESS THAN, OR TRACE VALUES. 24 REPORTED VALUES.

S-CO	26.226395	1.65	1 NOT DETECTED, LESS THAN, OR TRACE VALUES. 62 REPORTED VALUES.
S-CR	133.314209	2.32	63 SAMPLES AND 63 ANALYTICAL VALUES.
S-CU	31.464752	2.16	1 NOT DETECTED, LESS THAN, OR TRACE VALUES. 62 REPORTED VALUES.
S-LA	9.224982	5.06	41 NOT DETECTED, LESS THAN, OR TRACE VALUES. 22 REPORTED VALUES.
S-MO	********	******	COHEN'S TABLE EXCEEDED. H(0.9) OR GAMMA(0.2) GTR THAN ALLOW. NO COMPUTATIONS.
S-NB	9.961133	1.26	13 NOT DETECTED, LESS THAN, OR TRACE VALUES. 50 REPORTED VALUES.
S-NI	49.149521	2.19	63 SAMPLES AND 63 ANALYTICAL VALUES.
S-PB	17.084290	1.70	5 NOT DETECTED, LESS THAN, OR TRACE VALUES. 58 REPORTED VALUES.
S-SC	********	******	53 VALUES LESS THAN SPECIFIED LIMIT OF DETECTION. NO COMPUTATIONS.
S-SR	679.822998	1.47	63 SAMPLES AND 63 ANALYTICAL VALUES.
S-V	254.003433	1.48	63 SAMPLES AND 63 ANALYTICAL VALUES.
S-Y	25.207016	1.79	2 NOT DETECTED, LESS THAN, OR TRACE VALUES. 61 REPORTED VALUES.
S-ZR	********	******	1 GREATER THAN VALUES. NO COMPUTATIONS.

Table 2.--Description of background and mineralized rock samples from the Prince Rupert D-3 quadrangle. Sample localities are shown by sample number on the accompanying map, figure 1.

No.	Sample	Type[1/]	Description
1	OS940	B	Quartz-biotite schist; composite sample.
2	OS936	B	Quartz-hornblende schist; composite sample.
3	OS944	B	Greenschist; composite sample.
4	OS208	B	Pyrite-bearing hornblende, garnet schist; chips across outcrop.
5	OS949	B	Schist; composite sample.
6	OS205	B	Sheared and altered granodiorite, minor quartz veinlets.
7	OS079	M	Slightly mineralized (pyrite) altered (epidote and quartz) granodiorite; chips across outcrop.
8	OS953	B	Altered granodiorite.
9	OS998	B	Slightly altered hornblende granodiorite; composite sample.
10	OS995	B	Quartz schist; composite sample.
11	OS204	B	Slightly altered (pyrite) granodiorite; composite chips across the outcrop.
12	OS119	M	Pyrite-bearing actinolite-chlorite schist, minor quartz veinlets; composite chip sample across the outcrop.
13	OS124	M	Shear zone in amphibolite; composite chip sample across the outcrop.
14	OS987	B	Biotite-quartz-muscovite schist; composite sample.
15	OS968	B	Biotite-quartz schist.
16	OS984	B	Biotite-quartz-muscovite schist; composite sample.
17	OS972	B	Biotite and hornblende greenschist.
18	OS979	B	Quartz-biotite-muscovite schist; chip sample across outcrop.
19	OS975	B	Amphibolite; chip sample across outcrop.
20	OS964	B	Biotite-garnet-quartz schist.
21	OS958	B	Biotite-quartz schist; composite sample.
22	OS961	B	Chlorite-mica schist.

[1/] B = background sample
M = mineralized sample

TABLE 3--ROCK SAMPLES, PRINCE RUPERT D-3 QUADRANGLE, ALASKA 1/

	SAMPLE	X-COORD.	Y-COORD.	S-FE %	S-MG %	S-CA %	S-TI %	S-MN	S-AG	AA-AU-P
1	0S940	379490	95920	7.0	3.0	1.5	0.20	1500	0.5N	0.02L
2	0S936	373900	94300	5.0	1.5	2.0	0.30	300	0.5N	0.02L
3	0S944	375975	91205	10.0	3.0	5.0	0.70	1000	0.5N	0.02L
4	0S208	382155	88580	15.0	7.0	10.0	1.00	1500	0.5N	0.02L
5	0S949	375125	84295	10.0	5.0	7.0	0.50	2000	0.5N	0.02L
6	0S205	377750	79750	10.0	7.0	1.0	0.50	1500	0.5N	0.02L
7	0S079	375100	77360	3.0	0.7	1.5	0.20	300	0.5N	0.02L
8	0S953	376700	74110	1.5	0.7	0.7	0.07	200	0.5N	0.02L
9	0S998	381625	70340	5.0	1.5	3.0	0.20	1500	0.5N	0.02L
10	0S995	386025	74175	15.0	7.0	5.0	1.00	1500	0.5N	0.02L
11	0S204	383110	75305	5.0	3.0	1.5	0.20	700	0.5N	0.02L
12	0S119	385085	78100	10.0	7.0	10.0	0.30	1500	0.5N	0.02L
13	0S124	387660	75455	15.0	7.0	7.0	0.50	1500	0.5L	0.02L
14	0S987	387780	75640	15.0	3.0	2.0	0.50	1500	0.5N	0.02L
15	0S968	389440	77940	3.0	1.0	1.0	0.15	300	0.5N	0.02L
16	0S984	388200	80548	7.0	2.0	5.0	0.30	1000	0.5N	0.02L
17	0S972	389350	84725	10.0	3.0	1.5	0.70	700	0.5N	0.02L
18	0S979	387190	88430	7.0	2.0	5.0	0.30	1000	0.5N	0.02L
19	0S975	388900	91180	10.0	5.0	5.0	0.50	1000	0.5N	0.02L
20	0S964	390770	75990	10.0	3.0	2.0	0.70	1500	0.5N	0.02L
21	0S958	392330	71175	7.0	3.0	5.0	0.30	1500	0.5N	0.02L
22	0S961	388860	71530	0.7	0.3	1.0	0.07	300	0.5N	0.02L

1/ The following elements were looked for but if present are below the limits of detectability: As, Sb, W.

DATE 3/10/73

ROCK SAMPLES, PRINCE RUPERT D-3 QUADRANGLE, ALASKA

	SAMPLE	S-B	S-BA	S-BE	S-BI	S-CO	S-CR	S-CU	S-LA	S-MO
1	0S940	10.L	150	1.0L	10.N	5.	15	30	20.N	5.N
2	0S936	20.	150	1.0	10.N	10.	15	30	20.L	5.N
3	0S944	20.	300	1.0L	10.N	20.	20	50	20.N	5.N
4	0S208	30.	300	1.0L	10.N	30.	70	70	20.N	5.L
5	0S949	15.	150	1.0N	10.N	30.	150	100	20.N	5.N
6	0S205	15.	700	1.0L	10.N	30.	150	70	20.N	5.N
7	0S079	10.L	500	1.0L	10.N	5.N	10	15	20.N	5.L
8	0S953	10.N	500	1.0L	10.N	5.L	10	30	20.N	5.N
9	0S998	15.	700	1.0L	10.N	5.	20	30	20.N	5.N
10	0S995	15.	300	1.0L	10.N	30.	70	15	20.N	5.L
11	0S204	10.N	300	1.0N	10.N	20.	150	70	20.N	5.N
12	0S119	50.	500	1.0L	10.N	20.	150	15	20.N	5.L
13	0S124	30.	700	1.0L	10.N	30.	150	100	20.N	30.
14	0S987	15.	700	1.0L	10.N	30.	70	100	20.N	5.L
15	0S968	10.	500	1.0	10.N	5.	10	15	20.N	5.N
16	0S984	10.L	700	1.5	10.N	15.	20	150	20.N	5.L
17	0S972	10.L	700	1.0L	10.N	30.	150	50	20.N	5.L
18	0S979	10.L	1000	1.5	10.N	30.	70	100	20.N	5.N
19	0S975	10.L	300	1.0L	10.N	30.	150	70	20.N	5.L
20	0S964	10.	700	1.5	10.N	30.	70	100	20.N	5.L
21	0S958	10.L	300	1.0L	10.N	20.	50	30	20.N	5.L
22	0S961	10.L	1000	1.0	10.N	5.N	10	20	20.N	5.N

DATE 3/10/73

ROCK SAMPLES, PRINCE RUPERT D-3 QUADRANGLE, ALASKA

	SAMPLE	S-NB	S-NI	S-PB	S-SC	S-SN	S-SR	S-V	S-Y	S-ZN
1	OS940	10.	7.	10	5.	10.N	150	100	15.	200.N
2	OS936	10.L	5.	10	15.	10.N	500	100	20.	200.N
3	OS944	10.	20.	30	20.	10.N	700	300	15.	200.N
4	OS208	15.	30.	15	70.	10.N	300	500	30.	200.L
5	OS949	10.	50.	15	30.	10.N	300	300	15.	200.L
6	OS205	15.	50.	20	50.	10.N	300	500	15.	200.L
7	OS079	10.L	5.L	15	5.L	10.N	700	150	10.L	200.N
8	OS953	10.L	5.	10	5.L	10.N	700	30	10.	200.N
9	OS998	10.L	15.	10	5.N	10.N	700	50	10.L	200.N
10	OS995	10.	30.	20	70.	10.N	500	300	20.	200.N
11	OS204	10.L	70.	10	15.	10.N	300	150	10.	200.N
12	OS119	10.	20.	20	70.	10.N	700	300	15.	200.N
13	OS124	10.	150.	15	70.	10.N	300	300	30.	200.N
14	OS987	10.	30.	15	70.	10.N	200	200	30.	200.N
15	OS968	10.L	7.	10	5.N	10.N	150	20	200.	200.N
16	OS984	10.	5.	15	30.	10.N	700	300	15.	200.N
17	OS972	10.	70.	15	50.	10.N	700	300	15.	200.N
18	OS979	10.	20.	20	70.	10.N	1000	300	15.	200.N
19	OS975	10.	150.	30	30.	10.N	700	200	15.	200.N
20	OS964	10.	30.	70	70.	10.N	300	300	20.	200.L
21	OS958	10.	10.	15	70.	10.N	500	300	15.	200.N
22	OS961	10.L	5.	30	5.N	10.N	1500	15	10.N	200.N

ROCK SAMPLES, PRINCE RUPERT D-3 QUADRANGLE, ALASKA

	SAMPLE	S-ZR
1	0S940	100
2	0S936	200
3	0S944	100
4	0S208	200
5	0S949	100
6	0S205	70
7	0S079	30
8	0S953	70
9	0S998	70
10	0S995	100
11	0S204	50
12	0S119	50
13	0S124	150
14	0S987	300
15	0S968	300
16	0S984	200
17	0S972	150
18	0S979	70
19	0S975	150
20	0S964	500
21	0S958	70
22	0S961	70

TITLE
ROCK SAMPLES, PRINCE RUPERT D-

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

TITLE
ROCK SAMPLES, PRINCE RUPERT D-

FREQUENCY TABLE FOR COLUMN 4 (S-FE %)

LIMITS LOWER	- UPPER	FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
5.6E-01 -	8.3E-01	1	1	4.55	4.55
8.3E-01 -	1.2E 00	0	1	0.0	4.55
1.2E 00 -	1.8E 00	1	2	4.55	9.09
1.8E 00 -	2.6E 00	0	2	0.0	9.09
2.6E 00 -	3.8E 00	2	4	9.09	18.18
3.8E 00 -	5.6E 00	3	7	13.64	31.82
5.6E 00 -	8.3E 00	4	11	18.18	50.00
8.3E 00 -	1.2E 01	7	18	31.82	81.82
1.2E 01 -	1.8E 01	4	22	18.18	100.00

HISTOGRAM FOR COLUMN 4 (S-FE %)

```
7.0E-01 XXXXX
1.0E 00
1.5E 00 XXXXX
2.0E 00
3.0E 00 XXXXXXXXX
5.0E 00 XXXXXXXXXXXXX
7.0E 00 XXXXXXXXXXXXXXXXX
1.0E 01 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
1.5E 01 XXXXXXXXXXXXXXXXX
```

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

MAXIMUM = 1.50000E 01
MINIMUM = 7.00000E-01
GEOMETRIC MEAN = 6.68837E 00
GEOMETRIC DEVIATION = 2.17097E 00

TITLE
ROCK SAMPLES, PRINCE RUPERT D-

FREQUENCY TABLE FOR COLUMN 5 (S-MG %)

LIMITS LOWER	- UPPER	FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
2.6E-01 -	3.8E-01	1	1	4.55	4.55
3.8E-01 -	5.6E-01	0	1	0.0	4.55
5.6E-01 -	8.3E-01	2	3	9.09	13.64
8.3E-01 -	1.2E 00	1	4	4.55	18.18
1.2E 00 -	1.8E 00	2	6	9.09	27.27
1.8E 00 -	2.6E 00	2	8	9.09	36.36
2.6E 00 -	3.8E 00	7	15	31.82	68.18
3.8E 00 -	5.6E 00	2	17	9.09	77.27
5.6E 00 -	8.3E 00	5	22	22.73	100.00

HISTOGRAM FOR COLUMN 5 (S-MG %)

```
3.0E-01 XXXXX
5.0E-01
7.0E-01 XXXXXXXXX
1.0E 00 XXXXX
1.5E 00 XXXXXXXXX
2.0E 00 XXXXXXXXX
3.0E 00 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
5.0E 00 XXXXXXXXX
7.0E 00 XXXXXXXXXXXXXXXXXXXXX
```

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

MAXIMUM = 7.00000E 00
MINIMUM = 3.00000E-01
GEOMETRIC MEAN = 2.58789E 00
GEOMETRIC DEVIATION = 2.37191E 00

TITLE
ROCK SAMPLES, PRINCE RUPERT D-

FREQUENCY TABLE FOR COLUMN 6 (S-CA %)

LIMITS LOWER - UPPER		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
5.6E-01 -	8.3E-01	1	1	4.55	4.55
8.3E-01 -	1.2E 00	3	4	13.64	18.18
1.2E 00 -	1.8E 00	4	8	18.18	36.36
1.8E 00 -	2.6E 00	3	11	13.64	50.00
2.6E 00 -	3.8E 00	1	12	4.55	54.55
3.8E 00 -	5.6E 00	6	18	27.27	81.82
5.6E 00 -	8.3E 00	2	20	9.09	90.91
8.3E 00 -	1.2E 01	2	22	9.09	100.00

HISTOGRAM FOR COLUMN 6 (S-CA %)

```
7.0E-01 XXXXX
1.0E 00 XXXXXXXXXXXXX
1.5E 00 XXXXXXXXXXXXXXXXX
2.0E 00 XXXXXXXXXXXXX
3.0E 00 XXXXX
5.0E 00 XXXXXXXXXXXXXXXXXXXXXXXXXX
7.0E 00 XXXXXXXXX
1.0E 01 XXXXXXXXX
```

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

MAXIMUM = 1.00000E 01
MINIMUM = 7.00000E-01
GEOMETRIC MEAN = 2.79303E 00
GEOMETRIC DEVIATION = 2.25872E 00

TITLE
ROCK SAMPLES, PRINCE RUPERT D-

FREQUENCY TABLE FOR COLUMN 7 (S-TI %)

LIMITS LOWER - UPPER		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
5.6E-02 -	8.3E-02	2	2	9.09	9.09
8.3E-02 -	1.2E-01	0	2	0.0	9.09
1.2E-01 -	1.8E-01	1	3	4.55	13.64
1.8E-01 -	2.6E-01	4	7	18.18	31.82
2.6E-01 -	3.8E-01	5	12	22.73	54.55
3.8E-01 -	5.6E-01	5	17	22.73	77.27
5.6E-01 -	8.3E-01	3	20	13.64	90.91
8.3E-01 -	1.2E 00	2	22	9.09	100.00

HISTOGRAM FOR COLUMN 7 (S-TI %)

```
7.0E-02 XXXXXXXXX
1.0E-01
1.5E-01 XXXXX
2.0E-01 XXXXXXXXXXXXXXXXXX
3.0E-01 XXXXXXXXXXXXXXXXXXXXXXXX
5.0E-01 XXXXXXXXXXXXXXXXXXXXXXX
7.0E-01 XXXXXXXXXXXXX
1.0E 00 XXXXXXXXX
```

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

MAXIMUM = 1.00000E 00
MINIMUM = 7.00000E-02
GEOMETRIC MEAN = 3.32735E-01
GEOMETRIC DEVIATION = 2.09565E 00

TITLE
ROCK SAMPLES, PRINCE RUPERT D-

FREQUENCY TABLE FOR COLUMN 8 (S-MN)

LIMITS LOWER - UPPER		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
1.8E 02 -	2.6E 02	1	1	4.55	4.55
2.6E 02 -	3.8E 02	4	5	18.18	22.73
3.8E 02 -	5.6E 02	0	5	0.0	22.73
5.6E 02 -	8.3E 02	2	7	9.09	31.82
8.3E 02 -	1.2E 03	4	11	18.18	50.00
1.2E 03 -	1.8E 03	10	21	45.45	95.45
1.8E 03 -	2.6E 03	1	22	4.55	100.00

HISTOGRAM FOR COLUMN 8 (S-MN)

```
2.0E 02 XXXXX
3.0E 02 XXXXXXXXXXXXXXXXX
5.0E 02
7.0E 02 XXXXXXXXX
1.0E 03 XXXXXXXXXXXXXXXXX
1.5E 03 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
2.0E 03 XXXXX
```

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

MAXIMUM = 2.00000E 03
MINIMUM = 2.00000E 02
GEOMETRIC MEAN = 8.97010E 02
GEOMETRIC DEVIATION = 2.02877E 00

TITLE
ROCK SAMPLES, PRINCE RUPERT D-

FREQUENCY TABLE FOR COLUMN 11 (S-B)

LIMITS LOWER - UPPER		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
8.3E 00 -	1.2E 01	2	2	9.09	9.09
1.2E 01 -	1.8E 01	5	7	22.73	31.82
1.8E 01 -	2.6E 01	2	9	9.09	40.91
2.6E 01 -	3.8E 01	2	11	9.09	50.00
3.8E 01 -	5.6E 01	1	12	4.55	54.55

HISTOGRAM FOR COLUMN 11 (S-B)

```
1.0E 01 XXXXXXXXX
1.5E 01 XXXXXXXXXXXXXXXXXXXXXX
2.0E 01 XXXXXXXXX
3.0E 01 XXXXXXXXX
5.0E 01 XXXXX
```

N	L	H	B	T	G	ANALYTICAL VALUES
2	8	0	0	0	0	12
9.09	36.36			0.0	0.0	

MAXIMUM = 5.00000E 01
MINIMUM = 1.00000E 01
GEOMETRIC MEAN = 1.82520E 01
GEOMETRIC DEVIATION = 1.60194E 00

TITLE
ROCK SAMPLES, PRINCE RUPERT D-

FREQUENCY TABLE FOR COLUMN 12 (S-BA)

LIMITS LOWER - UPPER		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
1.2E 02 -	1.8E 02	3	3	13.64	13.64
1.8E 02 -	2.6E 02	0	3	0.0	13.64
2.6E 02 -	3.8E 02	6	9	27.27	40.91
3.8E 02 -	5.6E 02	4	13	18.18	59.09
5.6E 02 -	8.3E 02	7	20	31.82	90.91
8.3E 02 -	1.2E 03	2	22	9.09	100.00

HISTOGRAM FOR COLUMN 12 (S-BA)

```
1.5E 02 XXXXXXXXXXXXX
2.0E 02
3.0E 02 XXXXXXXXXXXXXXXXXXXXXXXXX
5.0E 02 XXXXXXXXXXXXXXXXX
7.0E 02 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
1.0E 03 XXXXXXXXX
```

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

MAXIMUM = 1.00000E 03
MINIMUM = 1.50000E 02
GEOMETRIC MEAN = 4.37542E 02
GEOMETRIC DEVIATION = 1.80166E 00

TITLE
ROCK SAMPLES, PRINCE RUPERT D-

FREQUENCY TABLE FOR COLUMN 13 (S-BE)

LIMITS LOWER - UPPER		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
8.3E-01 -	1.2E 00	3	3	13.64	13.64
1.2E 00 -	1.8E 00	3	6	13.64	27.27

HISTOGRAM FOR COLUMN 13 (S-BE)

1.0E 00 XXXXXXXXXXXXX
1.5E 00 XXXXXXXXXXXXX

N	L	H	B	T	G	ANALYTICAL VALUES
2	14	0	0	0	0	6
9.09	63.64			0.0	0.0	

MAXIMUM = 1.50000E 00
MINIMUM = 1.00000E 00
GEOMETRIC MEAN = 1.22474E 00
GEOMETRIC DEVIATION = 1.24867E 00

TITLE
ROCK SAMPLES, PRINCE RUPERT D-

FREQUENCY TABLE FOR COLUMN 15 (S-CO)

LIMITS LOWER - UPPER		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
3.8E 00 -	5.6E 00	3	3	13.64	13.64
5.6E 00 -	8.3E 00	0	3	0.0	13.64
8.3E 00 -	1.2E 01	1	4	4.55	18.18
1.2E 01 -	1.8E 01	1	5	4.55	22.73
1.8E 01 -	2.6E 01	4	9	18.18	40.91
2.6E 01 -	3.8E 01	10	19	45.45	86.36

HISTOGRAM FOR COLUMN 15 (S-CO)

```
       5.0E 00 XXXXXXXXXXXXX
       7.0E 00
       1.0E 01 XXXXX
       1.5E 01 XXXXX
       2.0E 01 XXXXXXXXXXXXXXXXXX
       3.0E 01 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
```

N	L	H	B	T	G	ANALYTICAL VALUES
2	1	0	0	0	0	19
9.09	4.55			0.0	0.0	

MAXIMUM = 3.00000E 01
MINIMUM = 5.00000E 00
GEOMETRIC MEAN = 1.88896E 01
GEOMETRIC DEVIATION = 1.94052E 00

TITLE
ROCK SAMPLES, PRINCE RUPERT D-

FREQUENCY TABLE FOR COLUMN 16 (S-CR)

LIMITS LOWER - UPPER		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
8.3E 00 -	1.2E 01	4	4	18.18	18.18
1.2E 01 -	1.8E 01	2	6	9.09	27.27
1.8E 01 -	2.6E 01	3	9	13.64	40.91
2.6E 01 -	3.8E 01	0	9	0.0	40.91
3.8E 01 -	5.6E 01	1	10	4.55	45.45
5.6E 01 -	8.3E 01	5	15	22.73	68.18
8.3E 01 -	1.2E 02	0	15	0.0	68.18
1.2E 02 -	1.8E 02	7	22	31.82	100.00

HISTOGRAM FOR COLUMN 16 (S-CR)

```
      1.0E 01 XXXXXXXXXXXXXXXXX
      1.5E 01 XXXXXXXXX
      2.0E 01 XXXXXXXXXXXXXX
      3.0E 01
      5.0E 01 XXXXX
      7.0E 01 XXXXXXXXXXXXXXXXXXXXXX
      1.0E 02
      1.5E 02 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
```

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

MAXIMUM = 1.50000E 02
MINIMUM = 1.00000E 01
GEOMETRIC MEAN = 4.51962E 01
GEOMETRIC DEVIATION = 2.94959E 00

TITLE
ROCK SAMPLES, PRINCE RUPERT D-

FREQUENCY TABLE FOR COLUMN 17 (S-CU)

LIMITS LOWER - UPPER		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
1.2E 01 -	1.8E 01	4	4	18.18	18.18
1.8E 01 -	2.6E 01	1	5	4.55	22.73
2.6E 01 -	3.8E 01	5	10	22.73	45.45
3.8E 01 -	5.6E 01	2	12	9.09	54.55
5.6E 01 -	8.3E 01	4	16	18.18	72.73
8.3E 01 -	1.2E 02	5	21	22.73	95.45
1.2E 02 -	1.8E 02	1	22	4.55	100.00

HISTOGRAM FOR COLUMN 17 (S-CU)

```
1.5E 01 XXXXXXXXXXXXXXXXX
2.0E 01 XXXXX
3.0E 01 XXXXXXXXXXXXXXXXXXXXXX
5.0E 01 XXXXXXXXX
7.0E 01 XXXXXXXXXXXXXXXXX
1.0E 02 XXXXXXXXXXXXXXXXXXXXX
1.5E 02 XXXXX
```

55

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

MAXIMUM = 1.50000E 02
MINIMUM = 1.50000E 01
GEOMETRIC MEAN = 4.48809E 01
GEOMETRIC DEVIATION = 2.11269E 00

TITLE
ROCK SAMPLES, PRINCE RUPERT D-

FREQUENCY TABLE FOR COLUMN 20 (S-NB)

LIMITS LOWER - UPPER	FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
8.3E 00 - 1.2E 01	13	13	59.09	59.09
1.2E 01 - 1.8E 01	2	15	9.09	68.18

HISTOGRAM FOR COLUMN 20 (S-NB)

```
1.0E 01 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
1.5E 01 XXXXXXXXX
```

N	L	H	B	T	G	ANALYTICAL VALUES
0	7	0	0	0	0	15
0.0	31.82			0.0	0.0	

MAXIMUM = 1.50000E 01
MINIMUM = 1.00000E 01
GEOMETRIC MEAN = 1.05555E 01
GEOMETRIC DEVIATION = 1.15337E 00

TITLE
ROCK SAMPLES, PRINCE RUPERT D-

FREQUENCY TABLE FOR COLUMN 21 (S-NI)

LIMITS LOWER - UPPER	FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
3.8E 00 - 5.6E 00	4	4	18.18	18.18
5.6E 00 - 8.3E 00	2	6	9.09	27.27
8.3E 00 - 1.2E 01	1	7	4.55	31.82
1.2E 01 - 1.8E 01	1	8	4.55	36.36
1.8E 01 - 2.6E 01	3	11	13.64	50.00
2.6E 01 - 3.8E 01	4	15	18.18	68.18
3.8E 01 - 5.6E 01	2	17	9.09	77.27
5.6E 01 - 8.3E 01	2	19	9.09	86.36
8.3E 01 - 1.2E 02	0	19	0.0	86.36
1.2E 02 - 1.8E 02	2	21	9.09	95.45

HISTOGRAM FOR COLUMN 21 (S-NI)

```
5.0E 00 XXXXXXXXXXXXXXXXX
7.0E 00 XXXXXXXXX
1.0E 01 XXXXX
1.5E 01 XXXXX
2.0E 01 XXXXXXXXXXXXX
3.0E 01 XXXXXXXXXXXXXXXXX
5.0E 01 XXXXXXXXX
7.0E 01 XXXXXXXXX
1.0E 02
1.5E 02 XXXXXXXXX
```


N	L	H	B	T	G	ANALYTICAL VALUES
0	1	0	0	0	0	21
0.0	4.55			0.0	0.0	

MAXIMUM = 1.50000E 02
MINIMUM = 5.00000E 00
GEOMETRIC MEAN = 2.13420E 01
GEOMETRIC DEVIATION = 2.98793E 00

TITLE
ROCK SAMPLES, PRINCE RUPERT D-

FREQUENCY TABLE FOR COLUMN 22 (S-PB)

LIMITS LOWER - UPPER		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
8.3E 00 -	1.2E 01	6	6	27.27	27.27
1.2E 01 -	1.8E 01	8	14	36.36	63.64
1.8E 01 -	2.6E 01	4	18	18.18	81.82
2.6E 01 -	3.8E 01	3	21	13.64	95.45
3.8E 01 -	5.6E 01	0	21	0.0	95.45
5.6E 01 -	8.3E 01	1	22	4.55	100.00

HISTOGRAM FOR COLUMN 22 (S-PB)

```
1.0E 01 XXXXXXXXXXXXXXXXXXXXXXXXX
1.5E 01 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
2.0E 01 XXXXXXXXXXXXXXXXX
3.0E 01 XXXXXXXXXXXXXX
5.0E 01
7.0E 01 XXXXX
```

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

MAXIMUM = 7.00000E 01
MINIMUM = 1.00000E 01
GEOMETRIC MEAN = 1.66816E 01
GEOMETRIC DEVIATION = 1.61970E 00

TITLE
ROCK SAMPLES, PRINCE RUPERT D-

FREQUENCY TABLE FOR COLUMN 23 (S-SC)

LIMITS LOWER - UPPER	FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
3.8E 00 - 5.6E 00	1	1	4.55	4.55
5.6E 00 - 8.3E 00	0	1	0.0	4.55
8.3E 00 - 1.2E 01	0	1	0.0	4.55
1.2E 01 - 1.8E 01	2	3	9.09	13.64
1.8E 01 - 2.6E 01	1	4	4.55	18.18
2.6E 01 - 3.8E 01	3	7	13.64	31.82
3.8E 01 - 5.6E 01	2	9	9.09	40.91
5.6E 01 - 8.3E 01	8	17	36.36	77.27

HISTOGRAM FOR COLUMN 23 (S-SC)

```
5.0E 00 *****
7.0E 00
1.0E 01
1.5E 01 **********
2.0E 01 *****
3.0E 01 ***************
5.0E 01 **********
7.0E 01 ********************************XXXXXXXXXXXXXXX
```

	N	L	H	B	T	G	ANALYTICAL VALUES
	3	2	0	0	0	0	17
CM	13.64	9.09			0.0	0.0	

MAXIMUM = 7.000000E 01
MINIMUM = 5.000000E 00
GEOMETRIC MEAN = 3.844466E 01
GEOMETRIC DEVIATION = 2.166581E 00

TITLE
ROCK SAMPLES, PRINCE RUPERT D-

FREQUENCY TABLE FOR COLUMN 25 (S-SR)

LIMITS LOWER - UPPER		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
1.2E 02 -	1.8E 02	2	2	9.09	9.09
1.8E 02 -	2.6E 02	1	3	4.55	13.64
2.6E 02 -	3.8E 02	6	9	27.27	40.91
3.8E 02 -	5.6E 02	3	12	13.64	54.55
5.6E 02 -	8.3E 02	8	20	36.36	90.91
8.3E 02 -	1.2E 03	1	21	4.55	95.45
1.2E 03 -	1.8E 03	1	22	4.55	100.00

HISTOGRAM FOR COLUMN 25 (S-SR)

```
1.5E 02 XXXXXXXXX
2.0E 02 XXXXX
3.0E 02 XXXXXXXXXXXXXXXXXXXXXXXXX
5.0E 02 XXXXXXXXXXXXX
7.0E 02 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
1.0E 03 XXXXX
1.5E 03 XXXXX
```

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

MAXIMUM = 1.50000E 03
MINIMUM = 1.50000E 02
GEOMETRIC MEAN = 4.58507E 02
GEOMETRIC DEVIATION = 1.83470E 00

TITLE
ROCK SAMPLES, PRINCE RUPERT D-

FREQUENCY TABLE FOR COLUMN 26 (S-V)

LIMITS LOWER - UPPER		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
1.2E 01 -	1.8E 01	1	1	4.55	4.55
1.8E 01 -	2.6E 01	1	2	4.55	9.09
2.6E 01 -	3.8E 01	1	3	4.55	13.64
3.8E 01 -	5.6E 01	1	4	4.55	18.18
5.6E 01 -	8.3E 01	0	4	0.0	18.18
8.3E 01 -	1.2E 02	2	6	9.09	27.27
1.2E 02 -	1.8E 02	2	8	9.09	36.36
1.8E 02 -	2.6E 02	2	10	9.09	45.45
2.6E 02 -	3.8E 02	10	20	45.45	90.91
3.8E 02 -	5.6E 02	2	22	9.09	100.00

HISTOGRAM FOR COLUMN 26 (S-V)

```
1.5E 01 XXXXX
2.0E 01 XXXXX
3.0E 01 XXXXX
5.0E 01 XXXXX
7.0E 01
1.0E 02 XXXXXXXXX
1.5E 02 XXXXXXXXX
2.0E 02 XXXXXXXXX
3.0E 02 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
5.0E 02 XXXXXXXXX
```

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

MAXIMUM = 5.00000E 02
MINIMUM = 1.50000E 01
GEOMETRIC MEAN = 1.64858E 02
GEOMETRIC DEVIATION = 2.72882E 00

A470 GEOCHEMICAL SUMMARY - U S G S STATPAC (08/02/71) DATE 12/26/72

TITLE
ROCK SAMPLES, PRINCE RUPERT D-

FREQUENCY TABLE FOR COLUMN 27 (S-Y)

LIMITS LOWER - UPPER	FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
8.3E 00 - 1.2E 01	2	2	9.09	9.09
1.2E 01 - 1.8E 01	10	12	45.45	54.55
1.8E 01 - 2.6E 01	3	15	13.64	68.18
2.6E 01 - 3.8E 01	3	18	13.64	81.82
3.8E 01 - 5.6E 01	0	18	0.0	81.82
5.6E 01 - 8.3E 01	0	18	0.0	81.82
8.3E 01 - 1.2E 02	0	18	0.0	81.82
1.2E 02 - 1.8E 02	0	18	0.0	81.82
1.8E 02 - 2.6E 02	1	19	4.55	86.36

HISTOGRAM FOR COLUMN 27 (S-Y)

```
1.0E 01 XXXXXXXXX
1.5E 01 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
2.0E 01 XXXXXXXXXXXXXX
3.0E 01 XXXXXXXXXXXXXX
5.0E 01
7.0E 01
1.0E 02
1.5E 02
2.0E 02 XXXXX
```

N	L	H	B	T	G	ANALYTICAL VALUES
1	2	0	0	0	0	19
4.55	9.09			0.0	0.0	

MAXIMUM = 2.00000E 02
MINIMUM = 1.00000E 01
GEOMETRIC MEAN = 1.92317E 01
GEOMETRIC DEVIATION = 1.91140E 00

TITLE
ROCK SAMPLES, PRINCE RUPERT D-

FREQUENCY TABLE FOR COLUMN 29 (S-ZR)

LIMITS LOWER - UPPER		FREQ	FREQ CUM	PERCENT FREQ	PERCENT FREQ CUM
2.6E 01 -	3.8E 01	1	1	4.55	4.55
3.8E 01 -	5.6E 01	2	3	9.09	13.64
5.6E 01 -	8.3E 01	6	9	27.27	40.91
8.3E 01 -	1.2E 02	4	13	18.18	59.09
1.2E 02 -	1.8E 02	3	16	13.64	72.73
1.8E 02 -	2.6E 02	3	19	13.64	86.36
2.6E 02 -	3.8E 02	2	21	9.09	95.45
3.8E 02 -	5.6E 02	1	22	4.55	100.00

HISTOGRAM FOR COLUMN 29 (S-ZR)

```
3.0E 01 XXXXX
5.0E 01 XXXXXXXXX
7.0E 01 XXXXXXXXXXXXXXXXXXXXXXXXXX
1.0E 02 XXXXXXXXXXXXXXXXX
1.5E 02 XXXXXXXXXXXXXX
2.0E 02 XXXXXXXXXXXXXX
3.0E 02 XXXXXXXXX
5.0E 02 XXXXX
```

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

MAXIMUM = 5.00000E 02
MINIMUM = 3.00000E 01
GEOMETRIC MEAN = 1.11384E 02
GEOMETRIC DEVIATION = 1.98404E 00

TITLE
ROCK SAMPLES, PRINCE RUPERT D-

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
S-FE	%	0	0	0	0	0	0	22
S-MG	%	0	0	0	0	0	0	22
S-CA	%	0	0	0	0	0	0	22
S-TI	%	0	0	0	0	0	0	22
S-MN		0	0	0	0	0	0	22
S-B		2	8	0	0	0	0	12
S-BA		0	0	0	0	0	0	22
S-BE		2	14	0	0	0	0	6
S-CD		2	1	0	0	0	0	19
S-CR		0	0	0	0	0	0	22
S-CU		0	0	0	0	0	0	22
S-NB		0	7	0	0	0	0	15
S-NI		0	1	0	0	0	0	21
S-PB		0	0	0	0	0	0	22
S-SC		3	2	0	0	0	0	17
S-SR		0	0	0	0	0	0	22
S-V		0	0	0	0	0	0	22
S-Y		1	2	0	0	0	0	19
S-ZR		0	0	0	0	0	0	22

ELEMENT		GEOMETRIC MEAN	GEOMETRIC DEVIATION	REMARKS
S-FE	%	6.688366	2.17	22 SAMPLES AND 22 ANALYTICAL VALUES.
S-MG	%	2.587894	2.37	22 SAMPLES AND 22 ANALYTICAL VALUES.
S-CA	%	2.793031	2.26	22 SAMPLES AND 22 ANALYTICAL VALUES.
S-TI	%	0.332735	2.10	22 SAMPLES AND 22 ANALYTICAL VALUES.
S-MN		897.007813	2.03	22 SAMPLES AND 22 ANALYTICAL VALUES.
S-B		9.527913	2.36	10 NOT DETECTED, LESS THAN, OR TRACE VALUES. 12 REPORTED VALUES.
S-BA		437.541260	1.80	22 SAMPLES AND 22 ANALYTICAL VALUES.
S-BE		0.584744	1.79	16 NOT DETECTED, LESS THAN, OR TRACE VALUES. 6 REPORTED VALUES.
S-CO		14.329702	2.56	3 NOT DETECTED, LESS THAN, OR TRACE VALUES. 19 REPORTED VALUES.
S-CR		45.196121	2.95	22 SAMPLES AND 22 ANALYTICAL VALUES.

S-CU	44.880722	2.11	22 SAMPLES AND	22 ANALYTICAL VALUES.	
S-NB	9.328358	1.25	7 NOT DETECTED, LESS THAN, OR TRACE VALUES.		15 REPORTED VALUES.
S-NI	19.263077	3.23	1 NOT DETECTED, LESS THAN, OR TRACE VALUES.		21 REPORTED VALUES.
S-PB	16.681534	1.62	22 SAMPLES AND	22 ANALYTICAL VALUES.	
S-SC	19.139191	4.42	5 NOT DETECTED, LESS THAN, OR TRACE VALUES.		17 REPORTED VALUES.
S-SR	458.505615	1.83	22 SAMPLES AND	22 ANALYTICAL VALUES.	
S-V	164.857986	2.73	22 SAMPLES AND	22 ANALYTICAL VALUES.	
S-Y	16.196548	2.12	3 NOT DETECTED, LESS THAN, OR TRACE VALUES.		19 REPORTED VALUES.
S-ZR	111.383728	1.98	22 SAMPLES AND	22 ANALYTICAL VALUES.	

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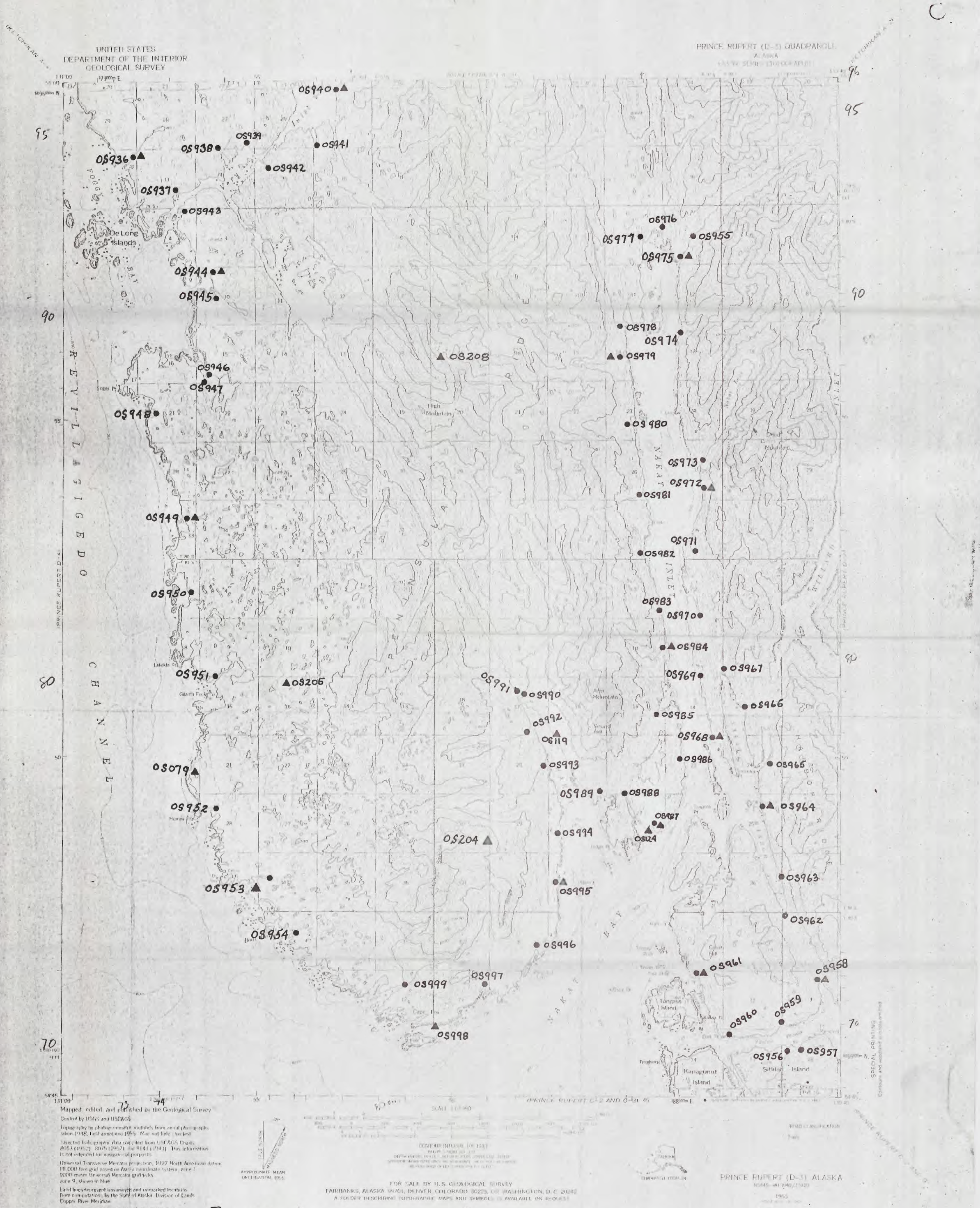

Figure 1. Location map of stream sediment and rock samples, Prince Rupert D-3 quadrangle, southeastern Alaska

by

James G. Smith

Explanation

●OS933 Locality number of stream sediment samples.

▲OS998 Locality number of rock samples.