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COMPILED BY INYO ELLERSIECK

ANALYTICAL RESULTS FOR STREAM-SEDIMENT GEOCHEMICAL
SAMPLES, AMBLER RIVER QUADRANGLE, ALASKA

1978

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Sample numbers

DISCUSSION

Collector	Prefix	Year(s)	Agency
B. Brickley	BY	1974	ADGGS
W. P. Brosge	BE	1966	USGS
G. R. Eakins	E	1972	ADGGS
I. F. Ellersieck	EK	1976	USGS
R. E. Garland	B, G	1972	ADGGS
S. W. Hackett	SWH	1976	ADGGS
J. T. Larson	R	1972, 1973	ADGGS
C. F. Mayfield	MD	1974, 1976	USGS
G. H. Pessel	PE	1973	ADGGS
H. Reiser	RR	1966	USGS
W. S. Roberts	BR	1972	ADGGS
I. L. Tailleux	TR	1966, 1974, 1976	USGS
J. M. Zdepiski	Z	1972, 1973	ADGGS

NOTE: Each sample number contains a prefix denoting the year it was collected, followed by an abbreviation of the collector's name. Samples collected in 1972, and some from 1973, are reported by Garland and others (1973). Most 1973 samples are reported by Garland and others (1975). All samples from 1974 are reported by Pessel (1976). Samples collected in 1966 and 1976 are published here for the first time.

This table incorporates previously published geochemical data from the Alaska Division of Geological and Geophysical Surveys (Garland and others, 1973; Garland and others, 1975; Pessel, 1976), and data from samples collected in 1966 and 1976 by the U.S. Geological Survey. Geochemical analyses from the Cosmos Hills have been reported by Fritts (1969 and 1970), but are not included in this compilation.

Stream-sediment samples were taken from the finest sediment accessible in or on the banks of streams. Pan samples were taken from gravel bars, screened, and panned down to a fist-sized sample. All samples were later sieved, and analyses are of the minus 80 mesh fraction.

Semiquantitative emission spectrographic analyses are reported in the series (. . . 1, 1.5, 2, 3, 5, 7, 10, . . .), which represents the geometric midpoints of intervals with boundaries in the series (. . . 0.83, 1.2, 1.8, 2.6, 3.8, 5.6, 8.3, 12, . . .). Thus, a reported value of seven parts per million (ppm) is between 5.6 and 8.3 ppm, plus or minus the analytical error. Iron, magnesium, calcium, and titanium are reported in percent. All other elements are reported in parts per million.

Elements looked for by the emission spectrographic method but not detected in any samples, along with their lower limits of detection, are: gold .5 ppm; bismuth 10 ppm; cadmium 20 ppm; niobium 20 ppm; and antimony 100 ppm.

In addition to the emission spectrographic method, the atomic absorption method was used to analyze copper, lead, and zinc in most samples. Some samples have also been analyzed for gold by this method.

Arithmetic means and standard deviations were computed from published analyses for samples collected in 1972, 1973, and 1974, and from laboratory reports from the U.S. Geological Survey branch of Exploration Research for samples collected in 1976. Some samples, notably the samples collected in 1966 and the 1973 Pe samples, have not been included in the calculations. These samples are relatively few in number, and their inclusion would not change the reported averages by a significant amount. For duplicate samples collected in 1972, only the published analyses were used.

No mean or standard deviation was computed for elements which had more than about 15 percent of the samples with values below measurable limits. For the rest of the elements, value of N or < were assumed to be equal to the lower limit of the lowest analytical interval for which the element can be measured. Values of > were arbitrarily assumed to be equal to the upper bound of the highest analytical interval for which the element can be measured.

Anomalous values are defined for the purposes of this report as values which are more than two standard deviations above the arithmetic mean of all samples. For elements which had too many values below measurable limits to compute an average or standard deviation, an anomaly threshold was chosen which would include about two percent of the samples.

Continental crustal average concentrations of the elements are taken from Lee and Yao (1970, table 1). These average are from rock analyses and are not meant to represent expected stream-sediment averages.

EXPLANATION OF SYMBOLS

- N Not detected.
- < Detected, but in lower concentration than limit shown.
- > Present in concentration greater than limit shown.
- Not measured.
- Anomalous value (see definition above).

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- Garland, R. E., Pessel, G. H., Tribble, T. C., and McClintock, W. W., 1973, Geochemical analysis of stream-sediment samples from the Ambler River A-1, A-2, A-3, B-1, B-2, B-3, C-1, C-2, and C-3 quadrangles, Alaska: Alaska Division of Geological and Geophysical Surveys Open-File Report no. 39, scale 1:63,360, 4 sheets.
- Garland, R. E., Pessel, G. H., Tribble, T. C., and McClintock, W. W., 1975, Geochemical analyses of stream-sediment and soil samples from Ambler River A-4, A-5, B-4, B-5, C-4, and C-5 quadrangles, Alaska: Alaska Division of Geological and Geophysical Surveys Open-File Report number 38, scale 1:63,360, 2 sheets.
- Lee, Tan, and Yao, Chi-lung, 1970, Abundance of chemical elements in the earth's crust and its major tectonic units: International Geology Review, v. 12, no. 7, p. 778-786.
- Pessel, G. H., 1976, Geochemistry of stream-sediment samples in southwestern Ambler River quadrangle, Alaska: Alaska Division of Geological and Geophysical Surveys Open-File Report no. 71, scale 1:200,000, 5 sheets.

PAN CONCENTRATE SAMPLES

sample	LATITUDE	LONGITUDE	map	S-FEX	S-MGX	S-CAX	S-TIX	S-MH	S-AG	S-AS	S-B	S-BA	S-BE	S-CC	S-CH	S-CU	S-LA	S-MO	S-NB	S-NI	S-PB	S-SC	S-SH	S-SR	S-V	S-W	S-Y	S-ZN	S-ZR	AA-AU	AA-CU	AA-PH	AA-ZN
76K03P	67 54 15	156 28 36	P1	>20.00	2.00	2.00	>1,000	>5,000	N	N	70	1,500	<2.0	150	500	300	1,000	N	<50	150	100	100	50	<200	200	N	700	N	>1,000	--	--	--	--

STREAM SEDIMENT SAMPLES

sample	LATITUDE	LONGITUDE	map	S-FEX	S-MGX	S-CAX	S-TIX	S-MH	S-AG	S-AS	S-B	S-BA	S-BE	S-CC	S-CH	S-CU	S-LA	S-MO	S-NB	S-NI	S-PB	S-SC	S-SH	S-SR	S-V	S-W	S-Y	S-ZN	S-ZR	AA-AU-P	AA-CU-P	AA-PH-P	AA-ZN-P
76K101	67 54 35	158 46 44	1	7.00	1.50	.70	>500	1,000	N	N	150	3,000	3.0	20	100	50	50	N	N	70	20	10	N	200	200	N	50	<200	200	N	30	20	120

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