UNITED STATES DEPARTMENT OF THE INTERIOR

GEOLOGICAL SURVEY

CHEMICAL ANALYSES OF 97 STREAM-SEDIMENT SAMPLES FROM THE COLEEN AND CHRISTIAN QUADRANGLES, NORTHERN ALASKA

By

W. P. Brosgé, H. N. Reiser and T. E. Moore

Open-file Report 77-458

1977

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

Chemical analyses of 97 stream-sediment samples from the Coleen and Christian quadrangles, northern Alaska

By W. P. Brosgé, H. N. Reiser, and T. E. Moore

Analyses of 97 stream-sediment samples from the Coleen and Christian quadrangles are given in Table 1, and the map locations are shown on figure 1. Most of the samples were collected in selected areas in 1967; the others were collected at widely scattered localities in 1960, 1963, and 1966. The results for the samples from the Coleen quadrangle have previously been presented on interpretive maps that show by symbol the higher concentrations of many of the metals (Brosgé and Reiser, 1968), but many of the data were omitted. The results for samples from the Christian quadrangle have not been published previously.

Samples were collected from active stream channels wherever possible, or from adjacent banks. Samples were air-dried, sieved to minus 80 mesh, and analyzed for 30 elements by the six-step semiquantitative spectrographic method. Additional analyses for gold, silver, arsenic, zinc and antimony were made by other methods. Results of the spectrographic analyses are reported as the midpoints of geometric brackets whose boundaries are in the series 1.2, 0.83, 0.56, 0.38, 0.26, 0.18, 0.12, etc. The reported midpoints are in the series 1, 0.7, 0.5, 0.3, 0.2, 0.15, 0.1, etc. The precision of a reported value is approximately plus or minus one bracket at 68 percent confidence or two brackets at 95 percent confidence.

The analyses were made in 1960, 1962, 1963, 1966, 1967, and 1968 by W. L. Campbell, K. J. Curry, M. DeValliere, E. J. Fennelly, J. Frisken, Chris Heropoulos, W. W. Janes, K. W. Leong, E. E. Martinez, J. B. McHugh, A. L. Meier, R. L. Miller, E. Mosier, K. R. Murphy, D. Murrey, S. Rickard, T. A. Romer, and Z. C. Stephenson as part of Jobs 848, GRD 1466, GRD 1682, GSD-CS 2159, HM 967, HM 968, HM 969, and M 738.

Explanation of Table 1

The listing of analyses contains the number for each sample; the quadrangle; the latitude and longitude in degrees, minutes and seconds; 35 columns of analyses; and the abbreviated map number for each sample as located on figure 1.

Concentrations of the elements are given in parts per million except where the symbol % in the column heading denotes they are given in percent. Analyses for the first 30 elements listed (Fe through Zr) were by the semi-quantitative spectrographic method. Analyses by other methods are denoted by symbols in the column headings.

Symbols

AA - Analyses by the atomic absorption method.

C - Analyses by colorimetric method.

CS - Christian quadrangle.

CO - Coleen quadrangle.

L - Detected, but below limit of determination.

N - Not detected at limit of detection.

(20) - Lower limit of determination applicable to symbols L and N is in parentheses in column heading.

G(1) - Detected, but greater than upper limit of determination (1 percent).

*L - Detected, but below limits of determination as follows: Ag,5; As,1,000; Be,5; La,50; Sb,200; Sr,100; W,100.

*N - Not detected at limits of detection as follows: Au,0.4; Sr,100.

∓L - Detected, but below limits of determination as follows: Ag,1.0; Be,2.0; Mo,2.0; Zn,100.

X - Sample not analyzed for this element.

References cited

Brosgé, W. P., and Reiser, H. N., 1968, Geochemical reconnaissance maps of granitic rocks, Coleen and Table Mountain quadrangles, Alaska: U.S. Geol. Survey open-file map, 1:250,000.