

UNITED STATES DEPARTMENT OF THE INTERIOR

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CHEMICAL ANALYSES OF STREAM-SEDIMENT SAMPLES FROM THE
TABLE MOUNTAIN AND ARCTIC QUADRANGLES, NORTHERN ALASKA

By

W. P. Brosge¹ and H. N. Reiser

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This report is preliminary
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reviewed for conformity with
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Analyses of 60 stream-sediment samples from the Table Mountain and Arctic 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 and 1972; a few samples were also collected at widely scattered localities in 1960 and 1971. The results have previously been presented on interpretive maps that show by symbol the higher concentrations of many of the metals (Brosge¹ and Reiser, 1968 and 1976), but many of the data were omitted.

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 uranium 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, 1967, 1968, 1969, 1972, and 1973 by W. L. Campbell, K. J. Curry, M. DeValliere, E. J. Fennelly, J. Frisken, W. W. Janes, 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, HM 968, HM 969, HM 1551, HM 3568, and HM 10006.

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; 36 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.
- PC - Analyses by paper chromatography.
- β - γ - Analyses by radiometric β - γ counter method.
- A - Arctic quadrangle
- T - Table Mountain 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.
- *L - Detected, but below limits of determination as follows: Ag,5; Be,5; La,50; Nb,20; Sb,200; Sc,10; Sr,100; W,100.
- *N - Not detected at limits of detection as follows: Au, 0.05; Ag, 0.5.
- X - Sample not analyzed for this element.

References cited

- Brosge¹, 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.
- _____, 1976, Preliminary geologic and mineral-resource maps (excluding petroleum), Arctic National Wildlife Range, Alaska: U.S. Geol. Survey open-file maps 76-539, 4 sheets, 1:500,000.