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GEOCHEMICAL ANALYSES OF STREAM-SEDIMENT AND ROCK SAMPLES

TANACROSS QUADRANGLE, ALASKA

By

Sandra H. B. Clark and Helen L. Foster

Open-file Report

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

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Analytical data for 154 stream-sediment and 47 rock samples, collected in the Tanacross quadrangle in the summer of 1967 are presented in this report. Limited stream-sediment sampling was done as part of the Heavy Metals program of the U.S. Geological Survey while completing reconnaissance mapping of the Tanacross quadrangle. The geologic map of the quadrangle is available as an open-file report (Foster, 1968).

The samples were analyzed by atomic absorption for gold and by six-step semiquantitative spectrographic analyses for 29 other elements. Analytical data for stream-sediment samples are given in table 1; analytical data and descriptions for rock samples are given in table 2. Sample locations are shown on figure 1. The only other available geochemical data for the Tanacross quadrangle are for 78 stream-sediment samples from along the Taylor Highway (Saunders, 1966).

Histograms for gold, silver, copper, molybdenum, lead, and zinc (fig. 2) were used to determine the lower limits of possibly anomalous concentrations of these metals. Two ranges of concentrations (referred to as groups 1 and 2) for gold, silver, and lead and one range of concentrations (referred to as group 1) for copper, molybdenum, and zinc, as determined from the histograms are shown on figure 1. The groups are arbitrary and do not imply an equal degree of an anomaly between groups of the same rank or that any of the groups are necessarily anomalous.

Most rock samples analyzed were selected because they contained visible sulfides or were altered or sheared, so many of the metal concentrations in table 2 represent local highs rather than background concentrations.

Several samples from two areas contained moderately high concentrations of metals. One of these areas, the Sikonsina Pass area in the southwest part of the quadrangle, is described in a separate report (Clark and others, in press). The second is a large area in the northeast part of the quadrangle where silver concentrations of 0.5 to 1.5 ppm were reported from four stream-sediment samples, and silver was detected below the limit of determination in two other stream-sediment samples. Sample density is so low, however, that the significance of these concentrations, if any, is not known.

The only known metallic mineral occurrence in the Tanacross quadrangle is an antimony prospect which has been known since 1914 and was described by Moffit (1954, p. 207-208). A stibnite vein crops out at stream level, but stream sediment (samples 61 through 63) near the vein did not contain enough antimony to be detected.

Reference cited

Clark, Sandra H. B., and others, 1969, Geochemical data in the Sikonsina Pass area, in Some shorter mineral resource investigations in Alaska, 1967: U.S. Geol. Survey Circ. ___. (In press)

Foster, H. L., 1968, Reconnaissance geologic map of the Tanacross quadrangle, Alaska: U.S. Geol. Survey open-file report, 12 p.

Moffit, F. H., 1954, Geology of the eastern part of the Alaska Range and adjacent area: U.S. Geol. Survey Bull. 989-D, p. 63-218.

Saunders, R. H., 1966, A geochemical investigation along the Taylor Highway, east-central Alaska: Alaska Div. Mines and Minerals Geochemical Rept. 9, 17 p.

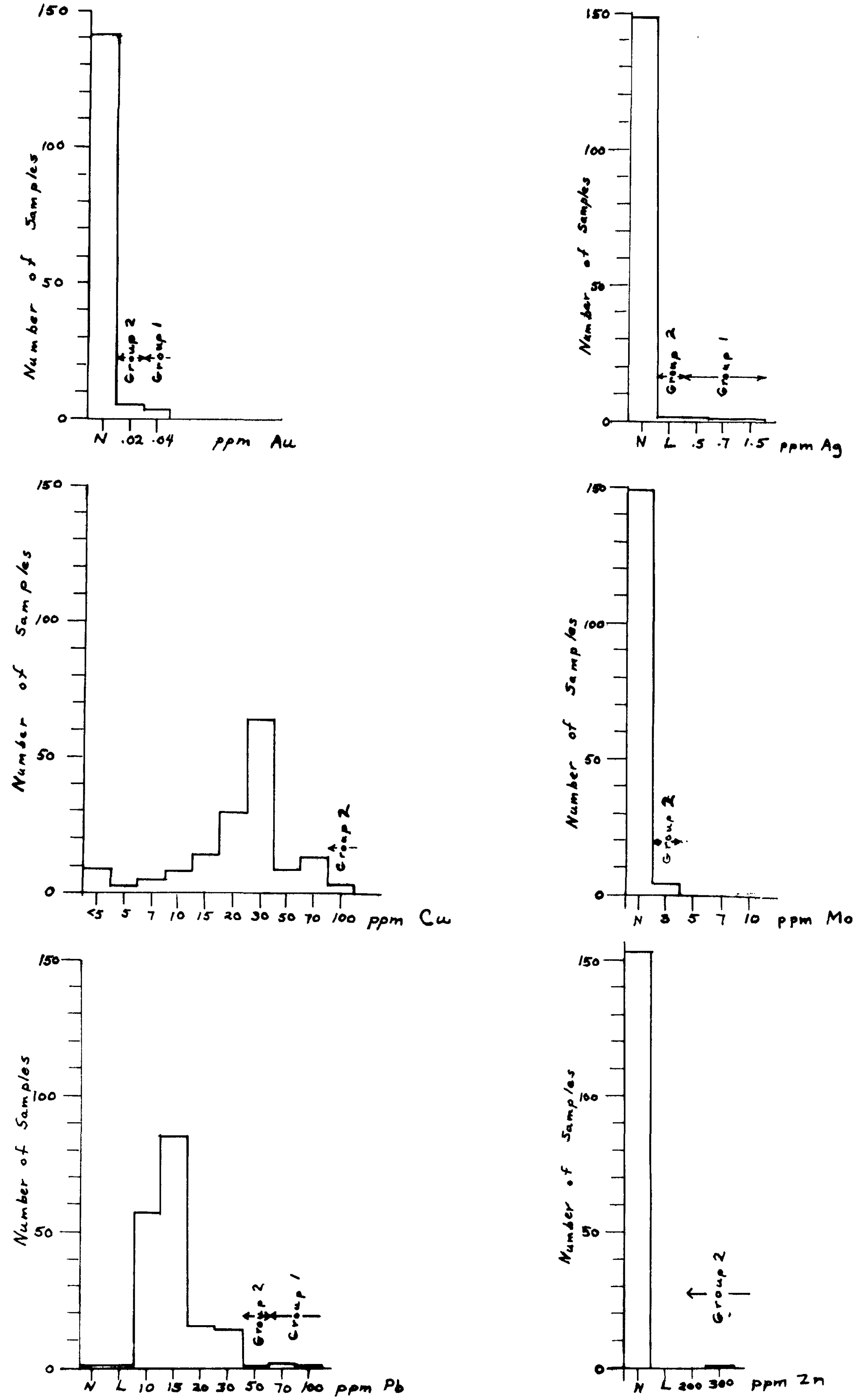

Figure 2.--Histograms of gold, silver, copper, molybdenum, lead, and zinc concentrations in stream-sediment samples. Symbols used are N = not detected; L = detected but below limit of determination; <= less than.

Table 1.--Analyses of stream-sediment samples, Tanacross quadrangle

Analysts: Arnold Farley, Jr., A. L. Meier, R. L. Miller, T. A. Roemer, J. C. Hamilton, M. S. Rickard, W. L. Campbell, R. T. Hopkins, E. E. Martinez, J. L. Finley

Analyses, unless noted, are semiquantitative spectrographic and are reported in the series 0.1, 0.15, 0.2, 0.3, 0.5, 0.7, 1.0, 1.5, and so on, or by the following symbols: N = not detected; L = detected but below limit of determination.

No.	Lab. No.	Field No.	Ag	As	Au[1/]	B	Ba	Be	Bi	Cd	Co	Cr	Cu	La	Mo	Mn	Nb	Ni	Pb	Sb	Sc	Sn	Sr	V	W	Y	Zn	Zr	Fe	Mg	Ca	Ti
			Parts per million																										Percent			
1	ACD 911	67AFr 880	N	N	N	10	500	1	N	N	15	100	7	N	N	700	L	100	15	N	10	N	500	70	N	10	N	150	3	1	2	3
2	989	853s	N	N	N	L	700	N	N	N	20	150	30	30	N	1000	L	30	15	N	20	N	700	150	N	30	N	150	3	2	3	.5
3	993	865s	N	N	N	L	700	N	N	N	15	70	30	N	N	700	L	20	10	N	30	N	700	150	N	30	N	150	3	1.5	3	1.5
4	996	870s	N	N	N	L	700	N	N	N	15	150	30	N	N	700	L	30	10	N	30	N	500	150	N	30	N	300	3	1.5	5	.7
5	957	871s	N	N	N	L	700	1	N	N	15	150	20	30	N	700	L	30	10	N	30	N	700	150	N	30	N	300	3	2	3	.7
6	958	872s	N	N	N	L	1000	1	N	N	15	100	20	30	N	700	L	30	10	N	20	N	700	150	N	30	N	200	3	2	3	.7
7	959	875s	N	N	N	L	1500	1	N	N	15	70	15	30	N	1500	L	25	15	N	20	N	700	150	N	30	N	300	3	2	3	.7
8	960	876s	N	N	N	L	1000	1	N	N	15	100	30	30	N	1000	L	20	15	N	20	N	700	150	N	30	N	150	3	2	3	.7
9	961	878s	N	N	N	L	1000	N	N	N	15	100	30	30	N	700	L	20	10	N	20	N	500	150	N	30	N	150	3	2	3	.7
10	962	885s	N	N	N	L	1000	1	N	N	15	100	30	30	N	700	L	20	15	N	15	N	700	150	N	30	N	150	3	2	3	.7
12	972	1325s	N	N	N	N	1000	N	N	N	15	70	15	50	N	1000	10	30	15	N	15	N	500	150	N	70	N	150	3	1.5	3	.3
13	973	1328s	N	N	N	30	1500	N	N	N	15	70	30	N	N	1500	L	30	N	N	15	N	150	150	N	30	N	150	2	1.5	2	.3
14	Acc 927	449s	N	N	N	N	700	1.5	N	N	15	150	20	30	N	1000	10	30	10	N	30	N	300	150	N	30	N	150	3	2	3	.5
15	928	435s	N	N	N	N	700	1.5	N	N	15	70	30	30	N	700	10	30	10	N	30	N	300	100	N	100	N	150	3	2	3	.3
16	929	470s	N	N	N	N	700	N	N	N	15	70	30	N	N	700	L	30	10	N	20	N	500	100	N	30	N	150	3	2	3	.3
17	930	412s	N	N	N	N	700	N	N	N	15	70	20	30	N	1000	10	30	15	N	15	N	500	150	N	30	N	200	3	3	3	.3
18	931	423s	N	N	N	N	700	1.5	N	N	15	70	30	30	N	1000	L	30	30	N	20	N	500	150	N	30	N	150	3	2	3	.3
19	932	417s	N	N	N	N	700	N	N	N	15	50	30	30	N	1000	10	30	15	N	20	N	500	150	N	30	N	150	3	1.5	3	.3
20	933	414s	N	N	N	N	700	N	N	N	15	70	30	30	N	700	10	30	15	N	20	N	500	150	N	30	N	150	3	2	3	.3
24	889	842s	N	N	N	L	700	N	N	N	15	70	20	N	N	700	N	30	10	N	20	N	700	150	N	30	N	150	3	2	3	.7
25	890	844s	N	N	N	L	700	N	N	N	15	70	20	N	N	700	N	30	10	N	20	N	700	150	N	30	N	150	3	2	3	.7
26	891	845s	N	N	N	L	700	N	N	N	15	100	30	N	N	500	L	30	10	N	20	N	500	150	N	30	N	150	3	2	3	.7
27	993	846s	N	N	N	L	700	1	N	N	15	150	30	30	N	500	L	50	10	N	30	N	700	150	N	30	N	300	3	3	3	.7
28	ACC 988	852s	N	N	N	L	700	1	N	N	15	100	30	30	N	700	L	30	15	N	20	N	700	150	N	30	N	150	3	3	3	.7
29	990	857s	N	N	N	L	700	N	N	N	20	100	30	N	N	1500	L	30	10	N	20	N	700	150	N	30	N	150	3	2	3	.7
30	991	858s	N	N	N	L	700	N	N	N	15	100	30	N	N	1000	L	20	15	N	15	N	300	150	N	30	N	150	3	1.5	3	5
31	997	860s	N	N	N	L	700	N	N	N	15	100	30	30	N	700	L	30	10	N	20	N	700	150	N	30	N	200	3	1.5	3	.7
32	992	862s	N	N	N	L	700	N	N	N	15	150	30	N	N	500	L	30	15	N	20	N	500	150	N	30	N	150	3	1.5	3	.5
33	994	868s	N	N	N	L	700	N	N	N	15	100	30	30	N	700	L	20	10	N	20	N	700	150	N	30	N	150	3	1.5	3	.5
34	995	869s	N	N	N	L	700	N	N	N	15	100	30	30	N	700	L	30	15	N	30	N	700	150	N	30	N	150	3	1.5	3	.7
Limits of determination			5	200	.02	10	5	1	10	20	5	5	5	20	5	10	[illegible]	2	10	100	5	10	50	10	50	10	200	20	.05	.02	.05	.001

1/ Atomic absorption

Table 1.--Analyses of stream-sediment samples, Tanacross quadrangle--Continued

Analysts: Arnold Farley, Jr., A. L. Meier, R. L. Miller, T. A. Roemer, J. C. Hamilton, M. S. Rickard, W. L. Campbell, R. T. Hopkins, E. E. Martinez, J. [illegible] Finley

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No.	Lab. No.	Field No.	Ag	As	Au[1]	B	Ba	Be	Bi	Cd	Co	Cr	Cu	La	Mo	Mn	Nb	Ni	Pb	Sb	Sc	Sn	Sr	V	W	Y	Zn	Zr	Fe	Mg	Ca	Ti
			Parts per million																										Percent			
35	ACD 894	67AFr-3164s	N	N	N	L	700	N	N	N	15	100	30	30	N	700	L	30	10	N	20	N	700	150	N	30	N	150	3.0	2.0	3.0	.7
36	ACC 934	400s	N	N	N	N	700	N	N	N	15	100	30	N	N	700	L	30	15	N	30	N	700	200	N	30	N	150	3.0	2.0	3.0	.5
39	ACD 804	1001s	N	N	N	20	500	1.5	N	N	7	30	15	30	N	700	10	30	15	N	15	N	150	70	N	15	N	150	1.5	.7	1.5	.3
40	813	266s	N	N	.04	50	1000	1.5	N	N	15	50	30	30	N	700	15	30	20	N	30	N	200	70	N	50	N	500	3.0	.7	2.0	.7
42	861	1287s	N	N	N	100	700	1.5	N	N	20	70	70	70	N	1500	10	50	30	N	20	N	150	150	N	50	N	300	3.0	1.5	.7	.5
43	863	3058s	N	N	N	N	70	N	N	N	N	3	15	N	N	300	N	10	10	N	N	N	N	7	N	N	N	150	1.5	.03	.03	.03
44	864	3059s	N	N	N	50	700	1	N	N	15	70	70	70	N	500	10	30	15	N	15	N	150	100	N	30	N	200	3.0	1.5	.7	.3
45	862	3057s	N	N	N	70	1000	1	N	N	15	100	50	70	N	700	10	30	20	N	20	N	150	150	N	50	N	300	3.0	1.5	2.0	.5
46	824	1076s	N	N	N	N	1000	1.5	N	N	15	50	30	30	N	700	10	30	15	N	20	N	200	150	N	30	N	150	3.0	2.0	1.0	.5
47	ACD 805	1019s	N	N	N	30	700	2	N	N	15	70	20	50	N	700	15	30	15	N	15	N	150	70	N	20	N	150	2.0	1.5	1.0	.3
52	845	1265s	N	N	N	50	1500	1	N	N	15	70	70	50	N	700	L	30	15	N	15	N	150	150	N	30	N	200	3.0	1.5	.7	.7
53	846	1268s	N	N	N	30	700	1	N	N	15	50	20	30	N	700	L	20	15	N	15	N	150	70	N	30	N	150	2.0	1.0	.7	.3
54	866	1266s	N	N	N	70	700	1.5	N	N	15	70	70	50	N	700	10	30	15	N	15	N	150	70	N	30	N	300	3.0	1.0	.3	.3
55	847	1269s	N	N	N	L	700	1	N	N	15	70	20	30	N	700	L	20	15	N	20	N	150	70	N	30	N	150	3.0	1.5	1.0	.3
56	850	1272s	N	N	N	20	700	N	N	N	15	50	20	30	N	500	10	20	15	N	15	N	150	70	N	30	N	200	2.0	1.0	1.5	.3
57	848	1270s	N	N	N	70	700	1	N	N	15	70	70	70	N	1500	15	50	30	N	15	N	150	70	N	30	N	200	3.0	.7	.7	.7
58	849	1271s	N	N	N	70	1000	1	N	N	15	70	70	70	N	300	10	30	20	N	15	N	150	100	N	30	N	200	3.0	1.0	.5	.3
60	851	1273s	N	N	N	30	700	1	N	N	15	70	20	30	N	500	10	20	15	N	15	N	150	70	N	30	N	300	3.0	1.0	1.5	.3
61	852	1274s	N	N	N	50	700	1	N	N	15	70	20	70	N	700	10	20	20	N	15	N	150	70	N	50	N	300	3.0	1.5	2.0	.3
62	853	1275s	N	N	N	50	700	1	N	N	15	70	30	70	N	700	15	20	20	N	20	N	200	70	N	50	N	300	3.0	1.5	3.0	.3
63	854	1276s	[illegible]	N	N	20	1000	N	N	N	20	150	70	50	N	700	L	50	30	N	30	N	150	150	N	30	N	200	3.0	3.0	3.0	.7
64	953	1195s	N	N	N	2	700	N	N	N	15	50	1.5	30	N	700	10	20	15	N	15	N	150	70	N	30	N	150	3.0	1.5	1.0	.3
65	807	1283s	N	N	N	50	1000	1	N	N	15	70	70	70	N	500	10	30	15	N	15	N	150	70	N	50	N	200	3.0	1.0	.5	.5
66	858	1284s	N	N	N	50	700	1	N	N	15	70	70	70	N	700	L	30	15	N	20	N	150	70	N	30	N	200	3.0	1.5	.7	.3
67	859	1285s	N	N	N	30	700	1	N	N	15	70	70	30	N	700	L	50	15	N	15	N	150	70	N	30	N	300	3.0	1.5	1.0	.3
68	860	1286s	N	N	N	70	1000	1	N	N	15	70	50	70	N	700	L	30	30	N	15	N	150	70	N	30	N	300	3.0	1.0	.2	.5
69	949	1032s	N	N	N	70	700	2	N	N	15	70	100	70	N	700	15	30	20	N	15	N	100	100	N	30	N	300	3.0	1.0	.3	.7
70	830	1037s	N	N	N	100	700	1.5	N	N	15	70	30	70	N	700	10	30	100	N	15	N	100	70	N	70	N	150	3.0	.7	3	.5
71	832	1038s	N	N	N	70	1000	1.5	N	N	15	70	70	100	N	700	15	50	30	N	15	N	100	70	N	30	N	200	3.0	1.0	.2	.7
72	833	1047s	N	N	N	70	700	1.5	N	N	15	70	70	100	N	700	15	50	30	N	15	N	150	70	N	30	N	200	3.0	1.5	.7	.5
Limits of determination			.5	200	.02	10	5	1	10	20	5	5	5	20	5	10	10	2	10	100	5	10	50	10	50	10	200	20	.05	.02	.05	.001

[1] Atomic absorption

Table 1.--Analyses of stream-sediment samples, Tanacross quadrangle--Continued

Analysts: Arnold Farley, Jr., A. L. Meier, R. [illegible] Miller, T. A. Roemer, J. C. Hamilton, M. S. Rickard, W. L. Campbell, R. T. Hopkins, E. F. Martinez, [illegible] Finley

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No.	Lab. No.	Field No.	Ag	As	Au[1]	B	Ba	Be	Bi	Cd	Co	Cr	Cu	La	Mo	Mn	Nb	Ni	Pb	Sb	Sc	Sn	Sr	V	W	Y	Zn	Zr	Fe	Mg	Ca	Ti
			Parts per million																										Percent			
73	ACD 834	67AFr 1048s	N	N	N	100	700	1.5	N	N	20	70	30	70	N	700	15	30	70	N	15	N	100	70	N	70	N	200	3	1.5	.5	.5
74	835	1051s	N	N	N	70	500	1.5	N	N	15	70	30	70	N	700	15	30	30	N	15	N	100	70	N	70	N	300	3	1.5	.7	.7
75	836	1052s	N	N	N	70	1000	N	N	N	20	150	100	N	3	700	L	50	15	N	30	N	200	300	N	30	N	100	3	1.5	1.5	.7
76	837	1054s	N	N	N	100	1000	3.0	N	N	15	70	30	100	N	500	15	30	30	N	30	N	150	150	N	70	N	200	3	1.5	.7	.5
77	838	1064s	N	N	N	70	700	N	N	N	20	70	100	N	3	700	L	50	10	N	30	N	150	200	N	30	N	100	3	3.0	1.0	.7
78	ACC 940	1066s	N	N	.04	70	700	2	N	N	15	70	50	70	N	700	15	30	30	N	15	N	150	70	N	30	N	200	2.0	1.5	1.0	.5
79	823	1069s	N	N	.02	70	700	1.5	N	N	15	70	50	50	3	700	15	30	20	N	15	N	150	150	N	30	N	150	3.0	1.5	1.0	.5
80	938	1071s	N	N	N	70	700	2	N	N	15	70	50	70	N	700	15	30	30	N	15	N	150	70	N	30	N	200	3.0	1.5	.2	.7
81	937	1072s	N	N	N	100	1500	3	N	N	15	70	30	70	3	700	15	30	20	N	30	N	150	150	N	50	N	200	3.0	1.5	.3	.5
82	936	1074s	N	N	N	70	1000	2	N	N	15	70	50	70	N	700	15	30	15	N	15	N	100	70	N	30	N	300	3.0	1.0	.15	.7
83	935	1075s	N	N	N	70	1500	1.5	N	N	15	70	100	70	N	700	15	30	70	N	15	N	100	70	N	30	N	300	3.0	1.0	.15	.7
84	ACD 875	831s	N	N	N	L	700	N	N	N	15	70	15	30	N	500	10	30	15	N	20	N	700	150	N	30	N	200	3.0	2.0	3.0	.7
85	865	832s	N	N	N	L	1500	2	N	N	15	70	20	30	N	700	L	20	15	N	20	N	500	150	N	50	N	200	3.0	1.5	3.0	.3
86	887	834s	N	N	N	L	700	N	N	N	30	70	15	N	N	500	L	20	10	N	15	N	200	70	N	30	N	200	2.0	1.0	3.0	.5
87	888	835s	N	N	N	L	700	N	N	N	15	100	30	30	N	700	L	30	15	N	20	N	700	150	N	30	N	150	3.0	1.5	3.0	.5
91	ACC 951	1194s	N	N	N	L	1000	N	N	N	15	50	15	50	N	500	10	20	15	N	15	N	150	70	N	30	N	150	3.0	1.5	1.5	.3
94	ACD 877	3136s	N	N	N	20	700	N	N	N	15	150	30	30	N	500	L	30	15	N	20	N	700	150	N	30	N	200	3.0	1.5	3.0	.7
95	876	3135s	N	N	N	20	1000	N	N	N	20	150	30	N	N	700	L	50	10	N	30	N	700	150	N	30	N	150	3.0	2.0	3.0	.7
96	884	3142s	N	N	N	L	700	1	N	N	15	70	20	30	N	700	L	30	10	N	20	N	500	150	N	30	N	150	3.0	1.5	3.0	.5
97	882	3141s	N	N	N	L	700	N	N	N	15	70	30	30	N	700	L	30	10	N	30	N	500	150	N	30	N	150	3.0	1.5	3.0	.5
98	881	3140s	N	N	N	L	700	N	N	N	15	70	20	30	N	700	L	30	10	N	15	N	200	100	N	30	N	150	3.0	1.5	3.0	.3
99	880	3139s	N	N	N	L	700	1	N	N	15	150	50	50	N	700	L	30	10	N	30	N	700	150	N	50	N	150	3.0	2.0	3.0	.3
100	883	3145s	N	N	N	L	700	N	N	N	15	100	30	30	N	700	L	30	10	N	20	N	700	150	N	30	N	200	3.0	1.5	3.0	.3
101	886	3144s	N	N	N	L	700	N	N	N	15	100	30	30	N	700	L	30	10	N	20	N	700	150	N	30	N	200	3.0	1.5	3.0	.5
102	885	3143s	N	N	N	L	700	N	N	N	15	100	30	30	N	700	N	30	10	N	20	N	700	150	N	30	N	200	3.0	2.0	3.0	.7
103	879	3138s	N	N	N	L	700	1	N	N	15	70	30	30	N	700	L	30	10	N	15	N	700	150	N	30	N	300	3.0	1.0	3.0	.5
104	878	3132s	N	N	N	L	700	N	N	N	15	150	20	70	N	700	L	30	10	N	20	N	700	150	N	150	N	200	3.0	1.5	3.0	.5
109	875	3134s	N	N	N	L	1000	N	N	N	15	100	30	30	N	700	L	50	10	N	30	N	700	150	N	30	N	150	3.0	2	3	.5
110	874	3133s	N	N	N	L	700	N	N	N	20	150	70	N	N	700	L	50	15	N	30	N	700	150	N	30	N	300	3.0	2	3	.5
112	808	274s	N	N	N	50	1000	1.5	N	N	15	70	30	70	N	700	15	30	15	N	20	N	150	150	N	30	N	200	3.0	1.5	1.5	.3
Limits of determination			.5	200	.02	10	5	1	10	20	5	5	5	20	5	10	10	2	10	100	5	10	50	10	50	10	200	20	.05	.02	.05	.001

[1] Atomic absorption

Table 1.--Analyses of stream-sediment samples, Tanacross quadrangle--Continued

Analysts: Arnold Farley, Jr., A. L. Meier, R. L. Miller, T. A. Roemer, J. C. Hamilton, M. S. Rickard, W. L. Campbell, R. T. Hopkins, F. E. Martinez, J. [illegible] Finley

[illegible] are semiquantitative spectrographic and are reported in the series 0.1, 0.15, 0.2, 0.3, 0.5, 0.7, 1.0, 1.5, and so on, [illegible] the following symbols: N = not detected; L = detected but below limit of determination

No.	Lab. No.	Field No.	Ag	As	Au[1]	B	Ba	Be	Bi	Cd	Co	Cr	Cu	La	Mo	Mn	Nb	Ni	Pb	Sb	Sc	Sn	Sr	V	W	Y	Zn	Zr	Fe	Mg	Ca	Ti
			Parts per million																										Percent			
113	ACC 917	67AFr 738s	N	N	N	30	500	N	N	N	15	150	30	50	N	700	N	50	20	N	30	N	200	70	N	20	N	150	5	.7	3	.7
114	919	740s	N	N	N	100	700	N	N	N	20	100	30	100	N	700	<20	15	15	N	20	N	300	70	N	20	N	200	5	1	2	.7
115	918	739s	N	N	N	15	700	N	N	N	15	50	30	20	N	700	N	10	10	N	20	N	100	150	N	20	N	200	3	.7	1.5	.3
116	ACD 802	1008s	N	N	N	30	700	2	N	N	15	70	20	70	N	700	15	50	15	N	15	N	300	100	N	30	N	300	3	1.5	2.0	.5
117	803	1031s	N	N	N	N	500	1.5	N	N	7	30	15	30	N	500	N	30	10	N	15	N	150	70	N	30	N	70	1.5	.7	1.5	.2
118	806	271s	N	N	.02	30	700	1.5	N	N	15	70	20	70	N	700	15	50	15	N	20	N	150	70	N	30	N	200	2.0	2.0	1.5	.3
119	807	272s	N	N	N	50	700	1.5	N	N	15	100	30	70	N	1000	15	50	15	N	30	N	200	100	N	30	N	300	3.0	2.0	3.0	.5
123	ACD 822	1085s	N	N	.04	30	500	1.5	N	N	10	50	30	30	N	300	L	1.5	15	N	15	N	150	70	N	20	N	150	1.5	1.0	1.5	.3
124	ACC 930	1086s	N	N	.02	30	700	1.5	N	N	10	50	30	70	N	700	15	30	15	N	15	N	200	100	N	30	N	150	3.0	1.0	1.5	.7
125	ACD 828	1102s	N	N	N	100	700	3	N	N	15	150	30	70	N	700	10	30	20	N	15	N	200	100	N	70	N	150	3.0	1.5	.7	.5
126	826	1104s	N	N	N	70	500	1.5	N	N	15	70	30	50	N	700	10	30	15	N	15	N	150	70	N	30	N	150	3.0	1.0	.7	.3
127	829	1105s	N	N	N	70	500	3.0	N	N	15	100	50	30	N	700	10	30	15	N	15	N	150	150	N	30	N	150	3.0	1.5	.7	.5
128	827	1106s	N	N	N	30	500	1.5	N	N	15	50	50	30	N	700	10	30	15	N	15	N	150	70	N	30	N	150	2.0	1.0	.7	.3
129	831	1107s	N	N	N	50	500	1.5	N	N	15	30	30	30	N	700	10	20	15	N	15	N	150	70	N	30	N	150	2.0	1.0	1.5	.5
132	ACC 920	174s	N	N	N	100	700	N	N	N	20	150	30	30	N	700	N	30	30	N	20	N	300	70	N	15	N	200	5	1	2	.7
133	922	185s	N	N	N	30	700	N	N	N	20	150	30	50	N	700	N	50	50	N	20	N	300	100	N	10	N	200	5	1	3	.7
134	921	178s	N	N	N	50	700	N	N	N	30	100	30	30	N	700	N	30	30	N	20	N	300	70	N	15	N	150	7	.7	2	.7
141	ACD 935	2331	N	N	N	15	500	L	N	N	7	100	30	N	N	1000	L	70	15	N	10	N	200	100	N	15	N	200	3	1.5	2	.3
142	936	2332	N	N	N	10	500	L	N	N	20	70	20	N	N	700	L	50	10	N	10	N	300	100	N	20	N	150	3	1.0	2	.3
143	937	2348	N	N	N	10	300	L	N	N	15	50	15	N	N	1000	L	50	10	N	10	N	300	100	N	15	N	150	2	.7	1.5	.3
144	945	4203	N	N	N	10	300	1	N	N	15	50	10	N	N	700	L	10	10	N	7	N	300	70	N	15	N	100	1.5	.7	1.5	.2
145	946	4218	N	N	N	15	500	1	N	N	15	70	10	N	N	700	10	20	10	N	10	N	300	100	N	15	N	150	3.0	1.0	2.0	.3
146	932	4096	N	N	N	15	500	1	N	N	20	70	20	N	N	700	10	50	L	N	20	N	300	100	N	20	N	150	3.0	1.5	2.0	.3
147	940	4131	N	N	N	10	500	1	N	N	20	100	20	N	N	700	L	70	10	N	15	N	300	100	N	15	N	150	3.0	1.5	2.0	.3
148	801	19s	N	N	N	20	700	1.5	N	N	15	100	30	30	N	700	10	70	15	N	20	N	300	150	N	30	N	200	3.0	1.5	3.0	.5
149	939	4107	N	N	N	15	500	L	N	N	10	150	20	N	N	700	L	70	15	N	20	N	300	100	N	15	N	150	3.0	1.5	2.0	.3
150	904	980	.5	N	N	10	700	2	N	N	10	30	7	N	N	700	20	50	15	N	7	N	200	50	N	30	N	200	2.0	.7	1.0	3
151	905	981	.5	N	N	15	300	1.5	N	N	10	50	7	20	N	700	10	7	20	N	7	N	200	50	N	15	N	200	2.0	1.0	1.0	2
152	906	986	L	N	N	20	300	1.0	N	N	10	50	7	N	N	500	10	10	15	N	7	N	200	50	N	20	N	150	2.0	.7	1.0	3
153	907	987	N	N	N	15	300	1.0	N	N	15	100	7	N	N	500	L	10	15	N	10	N	300	70	N	15	N	150	2.0	.7	1.0	2
Limits of determination			.5	200	.02	10	5	1	10	20	5	5	5	20	5	10	10	2	10	100	5	10	50	10	50	10	200	20	.05	.02	.05	.001

[1] Atomic absorption

Table 1.--Analyses of stream-sediment samples, Tanacross quadrangle--Continued

Analysts: Arnold [illegible]arley, Jr., [illegible] Meier, [illegible] Miller, T. A. Roemer, J. C. Hamilton, M. S. Rickard, W. [illegible] Campbell, [illegible] T. Hopkins, F. E. Martinez, [illegible]

Analyses, unless [illegible] are semiquantitative spectrographic and are reported in the series 0.1, 0.15, 0.2, 0.3, [illegible] and so on, [illegible] the following symbols: N -- not detected; L -- detected but below limit of determination.

No.	Lab. No.	Field No.	Ag	As	Au[1]	B	Ba	Be	Bi	Cd	Co	Cr	Cu	La	Mo	Mn	Nb	Ni	Pb	Sb	Sc	Sn	Sr	V	W	Y	Zn	Zr	Fe	Mg	Ca	Ti
			Parts per million																										Percent			
154	ACD908	67AFr 988	N	N	N	15	700	1	N	N	15	150	30	20	N	700	10	10	20	N	10	N	300	70	N	20	N	200	3.0	1.5	2.0	3.0
155	909	989	N	N	N	15	1000	1	N	N	15	100	10	N	N	1000	10	30	15	N	15	N	300	70	N	20	N	150	3.0	1.5	2.0	3.0
163	901	956	1.5	N	N	20	500	L	N	N	15	150	20	N	N	500	10	50	15	N	15	N	300	70	N	15	N	150	3.0	1.0	2.0	3.0
164	914	4014	N	N	N	15	500	L	N	N	15	150	20	N	N	700	10	20	15	N	15	N	300	100	N	20	N	200	3.0	1.5	2.0	5.0
165	915	4015	N	N	N	10	700	L	N	N	15	100	15	N	N	700	L	20	10	N	10	N	200	100	N	16	N	100	3.0	1.0	1.0	5.0
166	916	4016	N	N	N	10	500	L	N	N	15	50	20	N	N	700	L	50	10	N	15	N	200	70	N	15	N	100	3.0	1.5	1.0	3.0
167	917	4017	N	N	N	10	700	1	N	N	15	70	10	N	N	700	10	20	10	N	20	N	500	100	N	20	N	150	2.0	1.5	2.0	3.0
168	918	4018	N	N	N	15	500	2	N	N	15	70	10	N	N	500	10	15	10	N	10	N	300	70	N	15	N	100	2.0	.7	1.5	3.0
169	919	4019	N	N	N	15	500	1	N	N	15	100	20	20	N	700	10	20	15	N	10	N	300	100	N	10	N	100	2.0	1.0	2.0	2.0
170	920	4021	N	N	N	20	500	2	N	N	10	100	10	N	N	500	10	20	10	N	10	N	300	70	N	15	N	200	3.0	1.0	1.5	3.0
171	921	4022	N	N	N	L	700	L	N	N	15	100	5	N	N	700	10	20	10	N	10	N	300	70	N	20	N	100	3.0	1.5	2.0	3.0
172	929	4075	N	N	N	10	300	1	N	N	15	50	10	N	N	700	L	20	10	N	7	N	200	100	N	10	N	100	2.0	.7	1.0	.3
173	930	4076	N	N	N	20	500	1	N	N	15	100	15	20	N	700	10	50	15	N	10	N	300	70	N	50	N	150	3.0	1.0	1.5	.3
174	931	4077	N	N	N	15	500	L	N	N	20	70	30	N	N	700	L	20	15	N	15	N	300	100	N	15	N	150	3.0	1.5	2.0	.3
180	902	957	.7	N	N	20	500	1	N	N	15	100	20	N	N	500	10	30	15	N	15	N	300	70	N	15	N	100	3.0	1.0	1.5	3.0
181	903	959	L	N	N	20	500	1	N	N	15	150	20	N	N	700	L	50	10	N	10	N	300	70	N	20	N	150	3.0	1.5	2.0	5.0
183	812	349s	N	N	N	20	700	1.5	N	N	15	70	30	30	N	700	L	30	15	N	20	N	500	150	N	30	N	150	3.0	2.0	3.0	.3
184	809	279s	N	N	N	N	700	N	N	N	15	100	30	30	N	700	L	30	15	N	20	N	500	150	N	30	N	200	3.0	2.0	3.0	.3
185	814	325s	N	N	N	30	1500	N	N	N	15	100	30	30	N	700	10	30	15	N	30	N	300	150	N	30	N	300	3.0	1.5	3.0	.7
186	811	337s	N	N	N	20	700	N	N	N	15	70	30	30	N	700	10	30	15	N	20	N	500	150	N	30	N	200	3.0	2.0	3.0	.3
187	810	249s	N	N	N	20	700	N	N	N	15	150	30	30	N	1000	10	50	15	N	30	N	300	150	N	30	N	300	3.0	2.0	3.0	.5
191	938	3406	N	N	N	20	500	1	N	N	20	50	15	N	N	700	10	50	15	N	10	N	300	100	N	15	N	300	3.0	1.0	2.0	.3
192	941	4143	N	N	N	10	500	1	N	N	20	50	10	20	N	500	10	15	10	N	7	N	200	70	N	15	N	150	2.0	1.0	1.5	.3
193	942	4144	N	N	N	10	300	1.0	N	N	15	50	2	20	N	500	10	15	20	N	7	N	200	50	N	15	N	200	2.0	1.0	1.0	.3
194	943	4169	N	N	N	10	300	1.5	N	N	10	100	3	70	N	700	10	20	10	N	10	N	200	100	N	20	N	300	3.0	1.5	1.5	.3
195	944	4170	N	N	N	10	300	2.0	N	N	15	70	5	50	N	700	10	10	20	N	7	N	300	70	N	20	N	300	2.0	1.0	1.0	.3
196	839	1155s	N	N	N	L	1500	1	N	N	10	30	20	70	N	500	N	10	15	N	15	N	500	70	N	50	N	100	2.0	1.0	3.0	.3
197	840	1156s	N	N	N	20	700	1	N	N	15	70	30	70	N	700	L	20	15	N	15	N	300	100	N	30	300	100	3.0	1.0	3.0	.3
198	841	1157s	N	N	N	L	1500	1	N	N	15	30	20	30	N	700	L	15	20	N	15	N	500	150	N	30	N	100	3.0	1.5	3.0	.3
199	842	1158s	N	N	N	L	700	N	N	N	10	30	15	50	N	700	L	15	15	N	15	N	300	70	N	30	N	100	1.5	1.0	3.0	.3
Limits of determination			5	200	.02	10	5	1	10	20	5	5	5	20	5	10	10	2	10	100	5	10	50	10	50	10	200	20	.05	.02	.05	.001

[1] Atomic absorption

Table 1.--Analyses of stream-sediment samples, Tanacross quadrangle--Continued

Analysts: Arnold Farley, Jr., A. L. Meier, R. L. Miller, T. A. Roemer, J. C. Hamilton, M. S. Rickard, W. L. Gambell, R. T. Hopkins, E. E. Martinez, J. L. Finley

Analyses, unless noted, are semiquantitative spectrographic and are reported in the series 0.1, 0.15, 0.2, 0.3, 0.5, 0.7, 1.0, 1.5, and so on, or by the following symbols: N = not detected; L - detected but below limit of determination.

No.	Lab. No.	Field No.	Ag	As	Au[1/]	B	Ba	Be	Bi	Cd	Co	Cr	Cu	La	Mo	Mn	Nb	Ni	Pb	Sb	Sc	Sn	Sr	V	W	Y	Zn	Zr	Fe	Mg	Ca	Ti
			Parts per million																										Percent			
200	ACD 843	67AFr1159	N	N	N	20	700	1	N	N	20	70	30	70	N	700	L	30	15	N	20	N	500	150	N	30	N	150	3.0	1.5	3.0	.5
201	844	1160s	N	N	N	L	700	1	N	N	15	70	15	70	N	700	L	30	15	N	20	N	700	150	N	30	N	200	3.0	1.5	3.0	.3
202	933	2329	N	N	N	L	300	1	N	N	20	20	L	70	N	700	50	7	15	N	7	N	100	50	N	30	N	100	1.5	.7	1.0	.3
203	934	2330	N	N	N	L	700	1.5	N	N	10	15	5	20	N	500	10	5	15	N	5	N	100	50	N	10	N	70	1.0	.5	1.5	.15
Limits of determination			.5	200	.02	10	5	1	10	20	5	5	5	20	5	10	10	2	10	100	5	10	50	10	50	10	200	20	.05	.02	.05	.001

[1/] Atomic absorption

Table 2.--Analyses of rock samples, Tanacross quadrangle

Analysts: Arnold Farley, Jr., A. L. Meier, R. L. Miller, T. A. Roemer, J. C. Hamilton, M. S. Rickard, W. L. Campbell, R. T. Hopkins, E. E. Martinez, J. L. Finley.

Analyses, unless noted, are semiquantitative spectrographic and are reported in the series 0.1, 0.15, 0.2, 0.3, 0.5, 0.7, 1.0, 1.5, and so on, or by the following symbols: N = not detected; L = detected but below limit of determination; - = not looked for; > = greater than; < = less than.

No.	Lab. No.	Field No.	Ag	As	Au[1]	B	Ba	Be	Bi	Cd	Co	Cr	Cu	La	Mo	Mn	Nb	Ni	Pb	Sb	Sc	Sn	Sr	V	W	Y	Zn	Zr	Fe	Mg	Ca	Ti	Description
			Parts per million																										Percent				
11	ACC965	AFr3167	N	N	N	N	300	N	N	N	50	1000	150	N	N	1000	N	100	15	N	50	N	700	300	N	30	N	50	7	7	7	.7	Diorite(?) dike[2]
21	ACD991	413	N	N	N	N	1000	1.5	N	N	N	1.5	7	50	N	300	10	N	30	N	10	N	70	15	N	30	N	200	1	.7	.3	.1	Metavolcanic rock
22	993	2006	N	N	N	N	3000	N	N	N	3	L	7	N	3	70	N	N	30	N	7	N	50	70	N	N	N	50	.7	.03	.15	.3	Aplitic dike[2]
23	994	2001	15	N	.04	300	700	3	N	N	7	3	15	70	3	10,000	15	3	1000	N	7	N	70	70	N	30	1000	150	.7	.3	.15	.15	Sheared quartz monzonite(?)
37	817	1005A	N	N	N	N	700	N	N	N	30	200	150	N	N	1000	N	100	N	N	50	N	200	200	N	20	N	30	7	7	10	.7	Intrusive rock, host rock of 38
38	816	1005B	7	N	.07	N	500	N	N	N	30	15	15,000	N	N	1000	L	70	N	N	30	N	300	200	N	15	N	30	7	5	7	.3	Unoxidized fracture
41	954	1249	N	N	.05	N	30	N	10	N	N	3	30	N	N	20	N	3	50	N	N	N	N	N	N	N	1500	100	1	.03	.05	.03	Altered zone about 40 feet wide
48	869	2112	N	N	N	N	30	N	N	N	N	15	3	N	N	1500	N	20	N	N	N	N	700	150	N	10	N	N	.5	.1	>10	.015	Dark gray marble
49	871	2114	N	N	N	N	150	N	N	N	15	150	30	N	N	700	N	70	15	N	15	N	500	300	N	15	300	70	3	3	7	.3	Phyllonite with quartz veinlets
50	872	3124	3	N	N	N	3000	N	N	N	N	5	15	N	N	50	L	N	20	N	10	N	150	15	N	15	N	150	.7	.35	.07	.1	Quartzite
51	873	311a	N	N	N	N	1	N	N	N	15	50	10,000	30	10	500	L	50	30	N	10	N	150	50	N	15	N	200	2	.7	1	.3	Siltstone, chloritized
88	969	824	N	N	N	L	15,000	N	N	N	3	7	5	N	N	70	10	N	15	N	10	N	300	30	N	10	N	150	1	.2	.3	.15	Biotite gneiss with fluorite
89	970	699a	N	N	N	20	150	1	N	N	20	30	30	N	N	1000	10	30	50	N	5	N	500	70	N	30	N	50	>10	.3	5	.15	Ultramafic dike[2]
90	971	699b	N	N	N	30	50	1	N	N	50	30	100	N	N	1000	L	30	30	N	5	N	700	70	N	20	N	50	>10	.3	5	.15	Magnetite vein
92	953	1194b	N	N	N	30	150	1	N	N	5	5	1.5	70	N	500	10	7	15	N	10	N	200	30	N	70	N	150	1.5	2	3	.15	Quartzite
93	855	1277	N	N	N	150	700	1	N	N	7	70	100	70	10	200	L	15	30	N	15	N	300	150	N	50	N	150	1.5	.7	.7	.3	Fault gouge
105	964	2163d	N	N	N	N	700	3	N	N	N	2	5	N	N	70	10	N	15	N	5	N	70	10	N	30	N	100	.5	.1	.1	.07	Silicic volcanic rock
106	963	2163c	N	N	N	L	200	2	N	N	N	2	10	N	N	150	10	N	15	N	5	N	70	10	N	30	N	100	.5	.1	.15	.05	Silicic volcanic rock
107	967	3217a	N	N	N	N	200	1.5	N	N	15	100	15	70	N	1000	10	30	10	N	15	N	700	70	N	30	N	150	3	2	10	.3	Skarn
108	968	3217b	N	N	N	N	300	3	N	N	15	70	7	50	N	1000	15	30	10	N	20	N	700	70	N	70	N	150	3	2	>10	.3	Skarn
111	870	2061	N	N	N	L	1500	1	N	N	N	1.5	5	150	N	300	15	N	20	N	5	N	150	10	N	30	N	150	.7	.15	.7	.07	Granitic rock, sheared[2]
120	815	269	N	N	N	150	1500	1.5	N	N	N	3	7	30	N	30	10	3	15	N	15	N	30	7	N	30	N	300	2	.15	.07	.15	Quartz-mica schist[2]
121	ACC956	1264B	N	N	N	N	50	N	N	N	20	1300	15	N	N	300	N	300	N	N	5	N	100	20	N	N	N	N	1.5	7	3	.03	Ultramafic rock
122	ACC955	1264A	N	N	N	30	700	1	N	N	70	1500	30	N	N	700	N	700	15	N	30	N	700	150	N	15	N	70	5	>10	3	.3	Ultramafic rock
130	947	1084	N	N	N	30	300	1.5	N	N	N	1.5	30	30	N	150	L	N	15	N	N	N	100	7	N	15	N	70	.7	.7	1	.03	Yellow altered dike rock
131	948	1085b	5	N	.6	N	200	N	70	N	7	7	10,000	N	7	500	L	3	15	N	7	N	150	30	N	15	N	70	2	.7	.7	.07	Green mineral in gneiss
135	976	4000	N	N	N	1000	2000	1.5	N	N	N	300	30	70	N	50	15	30	N	N	30	N	L	150	N	50	N	150	5	1	.1	.7	Quartzite with hematite(?) veinlets
136	ACD990	571	N	N	N	20	1500	3	N	N	N	1.5	3	70	N	300	15	N	30	N	7	N	300	7	N	30	N	200	.7	.15	.7	.1	Tuff[2]
137	996	529	N	N	N	N	3000	1.5	N	N	10	15	70	70	3	1500	15	3	30	N	30	N	700	150	N	30	N	200	5	2	3	.5	Intermediate volcanic rock
138	997	531	N	N	N	20	1500	1.5	N	N	N	3	15	30	3	1500	15	N	300	N	L	N	150	15	N	15	700	70	1.5	.3	.07	.07	Silicic volcanic rock[2]
Limits of determination			.5	200	.02	10	5	1	10	20	5	5	5	20	5	10	10	2	10	100	5	10	50	10	50	10	200	20	.05	.02	.05	.001	

1/ Atomic absorption

2/ Samples with visible sulfides

Table 2.--Analyses of rock samples, Tanacross quadrangle--Continued

Analysts: Arnold Farley, Jr., A. L. Meier, R. L. Miller, T. A. Roemer, J. C. Hamilton, M. S. Rickard, W. L. Campbell, R. T. Hopkins, E. E. Martinez, J. L. Finley.

Analyses, unless noted, are semiquantitative spectrographic and are reported in the series 0.1, 0.15, 0.2, 0.3, 0.5, 0.7, 1.0, 1.5, and so on, or by the following symbols: N = not detected; L = detected but below limit of determination; - = not looked for; > = greater than; < = less than.

No.	Lab. No.	Field No.	Ag	As	Au[1]	B	Ba	Be	Bi	Cd	Co	Cr	Cu	La	Mo	Mn	Nb	Ni	Pb	Sb	Sc	Sn	Sr	V	W	Y	Zn	Zr	Fe	Mg	Ca	Ti	Description
			Parts per million																										Percent				
139	ACD998	AFr 526	N	N	N	N	3000	3	N	N	N	L	3	70	N	300	15	N	150	N	—	N	500	15	N	30	N	150	1	.15	.3	.15	Silicic volcanic rock[2]
140	992	528	N	N	N	70	2000	1.5	N	N	N	1.5	20	70	N	150	20	N	20	N	7	N	200	15	N	15	N	200	1.5	.2	.15	.15	Andesitic(?) volcanic rocks[2]
156	ACC981	2178	N	N	N	L	5000	L	N	N	15	1000	50	150	7	1500	15	50	30	N	30	N	700	200	N	30	300	150	10	3	2	1	Greenschist
157	982	2181	N	N	N	10	700	N	N	N	150	100	150	300	N	1500	L	30	L	N	<100	N	700	500	N	50	N	30	15	5	7	.7	Hornblendite[2]
158	983	2182	N	N	N	15	3000	1	N	N	N	30	10	N	N	70	L	15	N	N	N	N	N	50	N	N	N	70	.3	.2	.1	.07	Marble
159	984	2195	N	N	N	N	1000	1.5	N	N	N	5	30	50	N	300	L	5	L	N	7	N	200	15	N	30	N	150	2	.5	.3	.2	Quartzite
160	985	2197	N	N	N	N	2000	1.5	N	N	N	N	10	N	N	30	L	2	15	N	N	N	700	30	N	N	N	70	2	.02	.07	.07	Brecciated alaskite
162	ACD995	416	N	N	.02	N	150	N	N	N	30	2	70	N	3	1500	15	7	15	N	30	N	70	200	N	30	N	150	5	3	3	.7	Metavolcanic rock[2]
175	ACC774	929	N	N	N	N	1500	3	N	N	20	200	30	70	N	1000	30	30	L	N	15	N	500	150	N	70	N	700	5	2	2	.3	Quartzite[2]
176	975	944	N	N	N	L	1500	3	N	N	30	150	30	30	N	1000	30	50	30	N	15	N	500	100	N	70	N	500	7	2	2	.5	Andesite(?)[2]
177	980	2167	N	N	N	N	30	L	N	N	N	10	L	N	N	150	N	N	N	N	N	N	3000	L	N	N	N	N	.1	.7	20	.02	Marble[2]
178	977	4014	N	N	N	N	30	L	N	N	N	10	N	N	N	10	N	N	N	N	N	N	3000	L	N	N	N	N	N	.7	>20	.01	Marble[2]
179	ACD947	2231	3	N	N	20	>5000	2	N	N	N	100	200	L	15	150	15	30	L	N	10	N	L	700		50	N	150	1.5	.7	.7	.2	Dark gray quartzite[2]
182	ACC926	62c	N	N	N	N	500	N	N	N	15	1500	30	50	N	1000	N	150	20	N	50	N	500	150	N	20	N	150	10	3	7	.5	Altered basalt[2]
188	923	1080	N	N	N	N	500	N	N	N	N	N	30	<20	30	150	N	N	30	N	<5	50	N	15	N	20	N	100	7	.15	<.05	.07	Brecciated volcanic rock
189	925	726	N	N	N	15	1500	N	N	N	50	30	50	50	N	700	N	7	50	N	30	N	1000	70	N	20	N	100	7	.7	1.5	.2	Diorite[2]
190	924	1086	N	N	.04	N	500	N	N	N	10	N	30	<20	N	150	N	N	N	N	15	30	N	15	N	20	N	100	7	.2	<.05	.07	Volcanic rock[2]
Limits of determination			.5	200	.02	10	5	1	10	20	5	5	5	20	5	10	10	2	10	100	5	10	50	10	50	10	200	20	.05	.02	.05	.001	

[1] Atomic absorption

[2] Samples with visible sulfides

Figure 1, EXPLANATION

Sample Locations

○174 Stream-sediment sample

△171 Bedrock sample

Sample numbers refer to analyses given in Tables 1 and 2

Stream-sediment Samples with Metal Concentrations in the Ranges Designated Group 2 or Group 1

◒181, Ag Group 2 sample, metal(s) having group 2 concentration designated beside symbol.

●180, Ag Group 1 sample, metal(s) having group 1 concentration designated beside symbol.

Sample 83 has group 1 concentration of lead and group 2 concentration of copper.

Rock Samples

▲156, 7ppm Mo, 300ppm Zn Rock sample with gold, silver, copper, molybdenum, lead, or zinc concentration significantly above that in most samples; metal(s) and concentrations designated beside the symbol.