UNITED STATES DEPARTMENT OF THE INTERIOR

GEOLOGICAL SURVEY

RESULTS OF STREAM-SEDIMENT SAMPLING IN THE ILIAMNA QUADRANGLE, ALASKA

By

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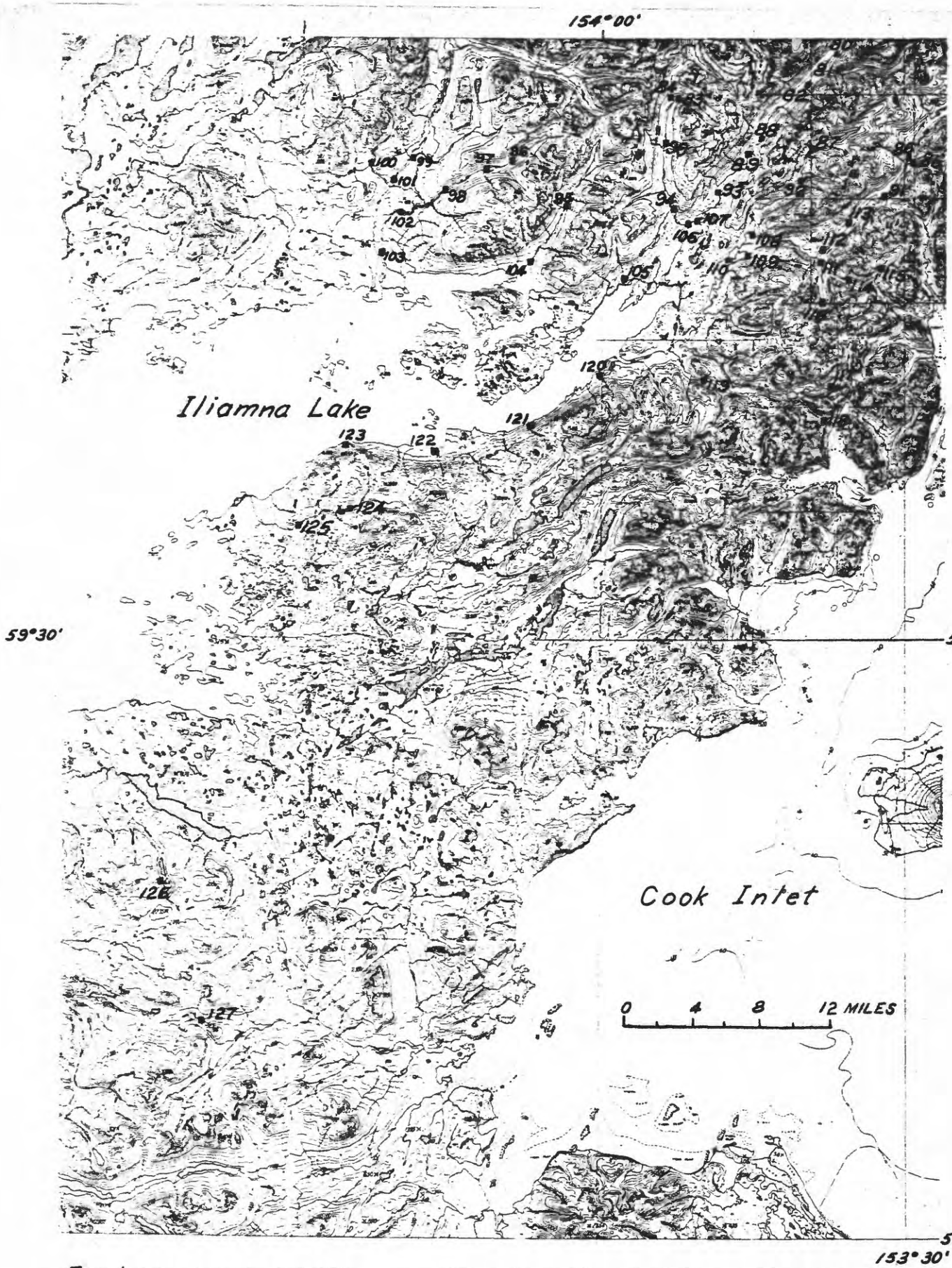
Semiquantitative spectrographic analyses of stream-sediment samples from the eastern part of the Iliamna quadrangle, Alaska, are presented in tabular form. A seven-cycle semilogarithmic chart presents data from this report and results of previous sediment samples (Detterman and Reed, 1965, open-file report). This chart graphically illustrates the range, mode, and mean for some elements in the samples. Some samples may represent significant anomalies. This report is a continuation of the geochemical prospecting phase of the U. S. Geological Survey's mapping project in the Iliamna quadrangle.

Open-file

1966

66-108

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



Eastern part of Iliamna Quadrangle, Alaska, showing location of stream sediment samples

66-108

PARTS PER MILLION

100,000
80,000
60,000
40,000
20,000
10,000
8,000
6,000
4,000
2,000
1,000
800
600
400
200
100
80
60
40
20
10
8
6
4
2
1
0.8
0.6
0.4
0.2
0.1
0.08
0.06
0.04
0.02
0.01

Mn
Ti
Ba
Sr
V
Zr
Y
Cu
Ga
Cr
Co
Ni
Sc
Yb
Ag
B
La
Mo
Nb
Pb

⊙ = Mean
■ = Mode

Semi-logarithmic representation of range, mode, and mean for some elements from 125 stream sediment samples in the Livana Quadrangle, Alaska. Chart includes samples from this report, and Detterman and Reed (1965, open-file report). Chart does not include pan concentrate of samples 87 and 98 (Detterman and Reed, [illegible]). Arrows at base of chart denote zero mode. The number of samples in which zero-mode elements were detected is: Ag, 9 (0.7 considered as 0.7); B, 52; La, 5; Mo, 14; Nb, 7; Pb, 13.

Table of results of semiquantitative spectrographic analyses of stream-sediment samples from the eastern part of the Iliamna quadrangle, Alaska

Analyses by Chris Heropoulos, U.S. Geological Survey. Results were reported in percent to the nearest number in the series 1, 0.7, 0.5, 0.3, 0.2, 0.15, and 0.1, etc.; which represent approximate midpoints of interval data on a geometric scale. Data (in percent) converted to parts per million. The assigned interval for semiquantitative results will include the quantitative value about 30 percent of the time. The following elements were looked for and not found: Ag, As, Au, Be, Bi, Cd, Ce, Ge, Hf, Hg, In, Pd, Pt, Re, Sb, Sc, Sn, Ta, Te, Th, Tl, U, W, Zn. Rock types are: Ji, Jurassic intrusive rocks; Jv, Jurassic volcanic rocks; M, metamorphic rocks; Tv, Tertiary volcanic rocks

Site	Sample	Concentration in parts per million: M = major constituent (greater than 100,000 ppm)																								Rock types in stream drainage area (in order of abundance
		Si	Al	Fe	Mg	Ca	Na	K	Ti	Mn	B	Ba	Co	Cr	Cu	Ga	La	Mo	Nb	Ni	Pb	Sc	Sr	V	Y	Yb	Zr	
80	M 100177	M	100,000	70,000	10,000	30,000	30,000	10,000	7,000	700	0	700	15	50	100	15	30	0	15	15	0	10	1,000	200	30	3	500	Ji
81	M 100176	M	70,000	20,000	5,000	15,000	30,000	10,000	1,500	1,000	0	1,000	3	20	50	10	0	0	0	7	0	3	300	70	15	1.5	200	Ji
82	M 100175	M	100,000	30,000	7,000	20,000	30,000	10,000	3,000	700	10	1,000	7	20	50	15	0	0	0	10	15	70	500	100	20	2	150	Ji
83	M 100190	M	70,000	50,000	7,000	20,000	30,000	15,000	7,000	1,000	0	1,000	10	20	70	15	0	7	10	3	15	10	500	150	30	3	300	Ji
84	M 100191	M	100,000	20,000	7,000	20,000	30,000	20,000	3,000	700	0	1,000	7	7	30	15	0	5	0	5	50	10	300	70	15	2	150	Ji
85	M 100186	M	100,000	70,000	30,000	50,000	20,000	5,000	5,000	1,500	150	300	30	50	150	15	0	0	0	50	0	30	500	300	30	3	70	Ji
86	M 100187	M	100,000	70,000	20,000	30,000	20,000	5,000	5,000	1,000	15	500	20	50	150	15	0	0	0	30	0	20	500	200	20	2	100	Ji
87	M 100167	M	100,000	20,000	7,000	20,000	30,000	7,000	3,000	1,000	0	700	10	20	20	15	0	0	7	7	10	10	500	100	20	2	100	Ji
88	M 100174	M	100,000	50,000	10,000	30,000	30,000	10,000	5,000	1,000	0	700	10	50	50	15	0	0	10	15	10	10	700	150	20	3	500	Ji
89	M 100173	M	100,000	50,000	15,000	30,000	30,000	10,000	5,000	1,000	10	700	20	70	70	15	0	0	0	20	0	20	700	150	30	3	150	Ji
90	M 100189	M	100,000	50,000	7,000	20,000	30,000	20,000	5,000	1,000	0	1,000	10	15	30	15	30	7	10	5	50	10	300	150	30	3	300	Ji
91	M 100184	M	100,000	100,000	30,000	30,000	20,000	7,000	7,000	1,500	50	300	50	70	100	15	0	0	0	50	0	30	500	500	30	3	200	Ji
92	M 100166	M	70,000	50,000	7,000	20,000	30,000	10,000	3,000	1,000	10	700	15	50	100	20	0	0	0	15	0	15	700	200	30	3	150	Ji
93	M 100172	M	50,000	M	7,000	20,000	20,000	7,000	10,000	2,000	0	500	30	200	150	10	30	0	30	50	0	15	500	1,500	50	5	1,000	Ji
94	M 100188	M	100,000	50,000	10,000	20,000	30,000	15,000	5,000	1,000	0	1,000	10	20	30	15	0	5	10	7	30	15	300	150	20	3	300	Ji
95	M 100147	M	70,000	50,000	7,000	15,000	30,000	15,000	7,000	1,500	0	1,000	10	15	15	15	0	0	15	5	30	10	300	200	30	3	300	Ji
96	M 100151	M	70,000	70,000	10,000	30,000	30,000	15,000	5,000	1,500	0	700	15	50	70	20	0	0	15	15	30	15	700	300	30	3	300	Ji, Jv
97	M 100150	M	70,000	70,000	10,000	30,000	20,000	15,000	7,000	1,500	0	500	20	50	50	15	0	0	20	15	15	15	700	500	30	3	200	Ji, Jv
98	M 100149	M	70,000	100,000	7,000	20,000	20,000	15,000	7,000	1,500	0	700	20	50	50	15	0	0	15	10	10	10	700	700	30	3	500	Tv, Ji, Jv
99	M 100163	M	70,000	70,000	7,000	30,000	20,000	15,000	7,000	2,000	0	1,000	15	50	30	20	0	0	30	7	15	20	700	500	50	5	500	Jv, Ji, Tv, M
100	M 100161	M	70,000	50,000	10,000	20,000	30,000	15,000	5,000	1,500	0	1,000	20	50	50	15	0	0	10	15	30	20	300	200	30	3	300	Jv, M, Tv
101	M 100162	M	70,000	50,000	7,000	30,000	30,000	15,000	5,000	1,500	0	1,000	10	30	30	25	0	0	10	7	15	15	500	200	30	3	200	Tv, Jv, Ji, M
102	M 100152	M	100,000	70,000	7,000	30,000	30,000	15,000	7,000	1,500	10	1,000	15	30	50	20	0	0	20	7	10	10	700	500	50	5	300	Tv, Ji, Jv
103	M 100148	M	70,000	70,000	7,000	20,000	30,000	15,000	7,000	1,000	0	700	10	15	15	15	0	0	15	7	15	10	700	200	30	3	150	Tv, Jv, Ji, M
104	M 100146	M	100,000	20,000	5,000	15,000	30,000	15,000	3,000	700	0	1,000	7	30	10	80	0	0	10	10	30	7	500	100	15	1.5	150	Ji
105	M 100145	M	70,000	70,000	10,000	20,000	20,000	10,000	7,000	1,500	0	700	20	20	20	15	0	0	15	10	20	15	500	300	30	3	300	Ji
106	M 100170	M	70,000	70,000	10,000	20,000	30,000	15,000	7,000	1,500	0	1,000	15	30	30	15	30	0	10	5	20	15	300	300	30	3	500	Ji
107	M 100171	M	70,000	M	10,000	30,000	30,000	10,000	7,000	1,500	0	700	20	100	100	15	30	0	20	30	0	15	700	500	50	5	500	Ji
108	M 100165	M	70,000	50,000	10,000	30,000	30,000	7,000	5,000	1,000	10	700	15	50	50	20	0	0	10	15	0	15	700	300	20	2	150	Ji
109	M 100185	M	70,000	M	30,000	30,000	15,000	7,000	10,000	2,000	0	200	50	100	100	15	0	0	10	50	0	30	500	1,000	50	5	500	Ji
110	M 100164	M	100,000	30,000	10,000	30,000	30,000	10,000	3,000	700	10	700	10	30	50	20	0	0	0	10	0	15	700	100	15	1.5	100	Ji
111	M 100178	M	70,000	M	20,000	30,000	20,000	7,000	7,000	2,000	0	300	50	70	100	15	0	0	10	30	0	30	500	700	30	3	500	Ji
112	M 100182	M	70,000	100,000	20,000	30,000	15,000	5,000	7,000	1,500	20	300	30	50	100	10	0	0	0	50	0	30	500	500	30	3	200	Ji
113	M 100183	M	100,000	70,000	30,000	30,000	20,000	7,000	7,000	1,500	15	500	30	30	150	15	0	0	0	30	0	30	500	300	30	3	150	Ji
114	M 100180	M	100,000	100,000	30,000	50,000	20,000	5,000	7,000	1,500	10	500	30	50	100	15	0	0	0	30	0	30	500	500	30	3	200	Ji
115	M 100181	M	70,000	M	30,000	30,000	15,000	7,000	10,000	2,000	0	300	50	70	100	15	0	0	0	50	0	30	500	1,000	30	3	700	Ji
116	M 100179	M	70,000	M	30,000	50,000	20,000	5,000	10,000	2,000	0	200	30	70	100	10	0	0	0	30	0	30	500	700	30	3	700	Ji
117	M 100168	M	70,000	M	30,000	50,000	20,000	7,000	7,000	2,000	15	300	50	70	200	20	0	0	10	20	0	70	500	1,000	50	5	1,500	Ji
118	M 100160	M	70,000	70,000	20,000	50,000	30,000	10,000	7,000	1,500	15	700	30	100	150	15	0	0	10	50	0	30	300	500	30	3	150	Ji, M, Jv
119	M 100159	M	70,000	100,000	50,000	50,000	20,000	7,000	10,000	2,000	0	300	50	150	200	20	0	0	10	70	0	50	300	1,000	30	3	150	Ji, M, Jv
120	M 100158	M	100,000	70,000	30,000	50,000	20,000	10,000	7,000	1,500	0	300	70	500	500	20	0	0	10	300	0	50	200	500	30	3	150	Jv, M
121	M 100157	M	100,000	70,000	30,000	50,000	20,000	7,000	7,000	1,500	15	500	50	200	100	20	0	0	0	70	0	50	500	300	30	3	100	Ji, M, Jv
122	M 100156	M	100,000	70,000	30,000	50,000	20,000	7,000	10,000	1,500	10	500	50	150	70	20	0	0	0	50	0	50	700	500	20	3	100	Tv, Jv
123	M 100155	M	100,000	70,000	20,000	50,000	30,000	10,000	10,000	1,500	0	700	30	100	70	20	0	0	10	50	30	30	700	500	30	3	150	Tv
124	M 100154	M	100,000	70,000	15,000	30,000	20,000	10,000	10,000	1,500	30	500	30	70	100	20	0	0	7	30	50	20	500	500	30	3	150	Tv
125	M 100153	M	100,000	50,000	10,000	30,000	20,000	10,000	7,000	1,000	0	1,000	20	50	30	20	0	0	7	15	30	20	500	200	50	5	200	Tv
126	M 100192	M	100,000	50,000	7,000	20,000	20,000	20,000	5,000	1,500	0	1,000	30	20	70	15	0	7	10	15	15	15	300	100	100	7	300	Tv
127	M 100169	M	70,000	70,000	15,000	30,000	20,000	10,000	7,000	1,500	20	700	20	100	70	15	0	0	0	30	15	30	300	300	50	5	200	Jv, Ji, Tv, M
Mode(s) for Jurassic intrusive rocks		M	100,000	50,000	7,000, 10,000, 30,000	30,000	30,000	10,000	7,000	1,000	0	700	10	50	100	15	0	0	0	30, 50	0	30	500	150, 300	30	3	150	
Mode(s) for Tertiary volcanic rocks		M	100,000	50,000, 70,000	---	30,000	20,000	10,000	10,000	1,500	0	1,000	30	---	70	20	0	0	7, 10	15	30	20	500	500	30	3	150	
Mode(s) for drainages with combined rock types		M	70,000	70,000	7,000	30,000, 50,000	20,000	15,000	7,000	1,500	0	700	20	50	50	15, 20	0	0	10	7	0	50	700	500	30	3	150	