

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

GEOCHEMICAL DATA FROM THE NABESNA A-3 QUADRANGLE, ALASKA

By

D. H. Richter and N. A. Matson, Jr.

PROPERTY OF BGS LIBRARY

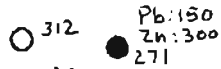
Open-file report

1969

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

MAP EXPLANATION

Nabesna A-3 quadrangle,
Alaska



Stream sediment sample
and number

Solid circle indicates presence of
anomalous elements. Anomalous ele-
ments and their concentration (in
ppm) shown. See Table 1 for addi-
tional analytical data.



Rock sample and number
See Table 2 for sample description
and analytical data.



Altered areas
Conspicuous limonite-staining due
principally to weathering of dis-
seminated sulfides in bedrock.



Known copper mineral occurrences in
amygdaloidal basalt unit.

TABLE 1

Analyses of stream sediments
Nabesna (A-3) quadrangle, Alaska

L, detected, but below limit of determination. N, not detected.
Limit of determination shown in parentheses under element.

Sample No.	Concentration (ppm)										
	Au (0.02)	Ag (0.5)	B (10)	Cr (5)	Cu (2)	Mo (2)	Ni (2)	Pb (10)	Sc (5)	V (5)	Zn (200)
AGG 261	L	N	15	500	100	L	100	L	30	300	L
AGG 262	L	N	10	50	20	L	70	10	50	300	L
AGG 263	L	N	10	50	15	L	30	10	20	150	L
AGG 264	L	N	10	100	150	L	50	20	20	150	L
AGG 265	L	N	10	100	100	5	100	10	30	200	L
AGG 266	L	N	10	500	70	L	20	L	20	200	L
AGG 267	L	N	15	100	70	N	20	N	20	200	N
AGG 268	L	N	15	1500	100	N	15	L	10	150	N
AGG 269	L	N	15	1000	100	L	50	L	30	150	L
AGG 270	L	N	10	500	100	N	70	L	15	150	L
AGG 271	L	N	10	300	50	N	20	150	20	150	300
AGG 272	L	L	L	150	50	N	30	L	15	150	N
AGG 273	L	.5	30	200	70	5	50	15	20	150	L
AGG 274	L	L	20	500	70	L	50	10	30	300	L
AGG 275	L	N	15	1000	70	L	30	L	30	150	L
AGG 278	L	N	10	150	150	N	150	N	50	300	L
AGG 279	L	N	L	700	70	N	150	L	50	300	L
AGG 280	L	N	10	200	100	N	7	200	20	150	L
AGG 283	L	N	100	100	50	N	100	N	30	300	L
AGG 285	L	N	50	150	100	N	20	L	15	150	L
AGG 288	L	L	20	200	100	L	50	10	20	150	L
AGG 290	L	N	10	30	30	N	50	L	30	200	L
AGG 298	L	L	20	70	20	L	150	L	30	200	L
AGG 300	L	L	10	300	100	L	100	L	20	300	N
AGG 301	L	N	15	700	150	N	50	10	10	70	L
AGG 302	L	N	15	500	150	N	100	L	30	300	L
AGG 303	L	N	15	200	100	N	150	L	30	300	L
AGG 305	L	N	10	700	200	N	30	L	10	70	N
AGG 306	L	N	15	700	300	N	100	L	30	300	L
AGG 307	L	N	10	300	70	L	50	L	20	150	L
AGG 308	L	N	10	700	100	N	50	L	20	150	L
AGG 309	L	N	30	700	150	L	100	L	30	150	N
AGG 310	L	N	10	500	300	L	100	L	30	200	N
AGG 311	L	N	N	1000	200	L	150	L	30	150	L
AGG 312	L	N	L	700	150	N	150	L	30	150	N

TABLE 1, cont.

Sample No.	Concentration (ppm)										
	Au (0.02)	Ag (0.5)	B (10)	Cr (5)	Cu (5)	Mo (2)	Ni (2)	Pb (10)	Sc (5)	V (5)	Zn (200)
AGG 313	L	N	15	700	200	L	150	L	50	200	L
AGG 314	L	N	L	300	150	N	100	L	30	150	N
AGG 315	L	N	10	300	150	N	150	L	30	200	L
AGG 316	L	N	10	300	150	L	100	L	30	150	N
AGG 317	L	N	10	700	200	L	100	L	30	150	N
AGG 318	L	N	15	700	150	L	150	L	50	300	N
AGG 319	L	N	L	1000	150	N	100	L	30	200	N
AGG 320	L	N	15	700	150	L	150	L	70	300	N
AGG 321	L	N	10	700	150	N	150	L	50	300	L
AGG 322	L	N	L	150	20	N	30	L	15	300	N

Gold by atomic absorption. Analysts: Miller, R., Tripp, R.

Other elements by semi-quantitative spectrographic. Analysts: Curry, J., Martinez, L.

TABLE 2

Analyses of rocks, alteration zones and veins
Nabesna (A-3) quadrangle, Alaska

L, detected, but below limit of determination. N, not detected. G, greater than value shown. Limit of determination shown in parentheses under element.

Sample No.	Concentration (ppm)										
	Au (0.02)	Ag (0.5)	B (10)	Cr (5)	Cu (2)	Mo (2)	Ni (2)	Pb (10)	Sc (5)	V (5)	Zn (200)
AGG 329	2.0	3	700	15	7000	L	30	L	7	30	700
AGG 330	L	N	L	200	300	L	30	L	30	300	N
AGG 342	L	N	N	20	5	L	7	20	5	30	L
AGG 343	L	N	L	30	7	N	70	N	15	70	N
AGG 346	L	.5	L	500	100	L	150	N	30	300	L
AGG 347	L	N	N	300	150	20	100	50	30	200	200
AGG 389	1.2	10	N	50	G(20,000)	N	1500	N	N	10	300

Gold by atomic absorption. Analysts: Miller, R., Tripp, R., Frisken, J.G., Rickard, M.

Other elements by semi-quantitative spectrographic. Analysts: Curry, J., Martinez, L., Siems, D.

Description of Samples

Sample No.	Description
AGG 329	Chip sample across 1.5 feet of copper-stained breccia at contact of granodiorite and marble.
AGG 330	Chip sample across 10 feet of limonite-stained amphibolite.
AGG 342	Random grab sample of garnet skarn.
AGG 343	Random chip sample of garnet skarn with hematite-quartz veinlets.
AGG 346	Random chip sample of limonite-stained fault breccia.
AGG 347	Chip sample of carbonatized and silicified fault gouge fragments.
AGG 389	Random float sample of garnet skarn with sulfides.

NOTES

Nabesna A-3 quadrangle, Alaska

- (1) In all analyses, with the exception of gold, the results are reported to the nearest number in the series 1, 0.7, 0.5, 0.3, 0.2, 0.15, 0.1, etc.
- (2) Elements are considered anomalous if they are present in concentrations greater than 3 times mean background. With the exception of amygdaloidal basalt terrane, mean background in the area (Richter and Matson, 1968) closely approximates average crustal abundance, i.e., copper, 55 ppm; lead, 12.5 ppm; zinc, 70 ppm; molybdenum, 1.5 ppm. Background concentrations for copper and certain other elements in amygdaloidal basalt terrane are considerably higher than crustal average, hence samples 278, 301, 302, 305, 306, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321 with copper contents of 150 to 300 ppm are not considered anomalous.
- (3) Reference: Richter, D. H. and Matson, N.A., Jr., 1968, Distribution of gold and some base metals in the Siana area, eastern Alaska Range, Alaska: U.S. Geol. Survey Circ. 593.