

Folio of the Ketchikan and Prince Rupert Quadrangles, Alaska
Koch and others--Geochemistry -Au,Ag

In the course of U.S. Geological Survey investigations of the Ketchikan and Prince Rupert quadrangles, 2602 stream-sediment samples were collected. Samples were analyzed for up to 30 elements by a 6-step, semiquantitative emission spectroscopic method (Grimes and Marranzino, 1968) and for up to 5 elements by atomic-absorption spectrophotometry (Ward and others, 1969). This map shows sample collection sites for 2583 samples which were analyzed for silver by the spectrographic method and 2548 samples analyzed for gold by the atomic-absorption method. Complete analytical data plus location maps (scale 1:125,000), station coordinates, and a discussion of sampling and analytical procedures for samples from sites shown on this map are published in two reports (Koch and Elliott, 1978a, c). These data are also available on magnetic computer tape (Koch, Van Trump, and McDana1, 1978).

Only 2.2 percent of the samples analyzed for silver returned values greater than the limit of determinability and only .8 percent of the analyses for gold did. All samples for which analyses showed either gold or silver are represented on this map. Values for silver have been grouped into two ranges represented by different size circles on the map. Gold values are indicated by triangles.

Selected References

Berg, H. C., Elliott, R. L., Smith, J. G., and Koch, R. D., 1978, Geologic map of the Ketchikan and Prince Rupert quadrangles, Alaska: U.S. Geol. Survey open-file rept. 78-73A, 1 sheet, scale 1:250,000.

Grimes, D. J., and Marranzino, A. P., 1968, Direct-current arc and alternating-current spark emission spectrographic field methods for the semiquantitative analysis of geologic material: U.S. Geol. Survey Circ. 591, 6 p.

Koch, R. D., and Elliott, R. L., 1978a, Analyses of rock samples from the Ketchikan quadrangle, southeastern Alaska: U.S. Geol. Survey open-file rept. 78-156A, 163 p.

— 1978b, Analyses of rock and stream-sediment samples from the Prince Rupert quadrangle, southeastern Alaska: U.S. Geol. Survey open-file rept. 78-156B, 98 p.

— 1978c, Analyses of stream-sediment samples from the Ketchikan quadrangle, southeastern Alaska: U.S. Geol. Survey open-file rept. 78-156C, 214 p.

Koch, R. D., Van Trump, George, Jr., and McDana1, S. K., 1978, Magnetic tape containing analytical data for rock and stream-sediment samples from Ketchikan and Prince Rupert quadrangles, southeastern Alaska: U.S. Geol. Survey Rept., 8 p., computer tape [Available from the Natl. Tech. Inf. Service, U.S. Dept. Commerce, Springfield, VA NTIS PB-276-777].

Ward, F. N., Nakagawa, H. M., Harms, T. F., and Van Sickle, G. H., 1969, Atomic-absorption methods of analysis useful in geochemical exploration: U.S. Geol. Survey Bull. 1289, 45 p.

CORRELATION OF MAP UNITS

[Geologic map generalized from Berg and others (1978)]

Qu		QUATERNARY
QTV		QUATERNARY AND TERTIARY
Tmp	} Miocene	TERTIARY
Tep		
TKp	} Lower Cretaceous	TERTIARY OR CRETACEOUS
KJup		
KJs	} Upper Jurassic	JURASSIC OR TRIASSIC
KJv		
Jts	} Upper Triassic	TRIASSIC
Jtsv		
MePz	} Middle and Upper Paleocene	MESOZOIC OR PALEOZOIC
MePzu		
Pzs	} Silurian or Older	PALEOZOIC OR OLDER
Pzv		
Pzp		
Pzsv		

DESCRIPTION OF MAP UNITS

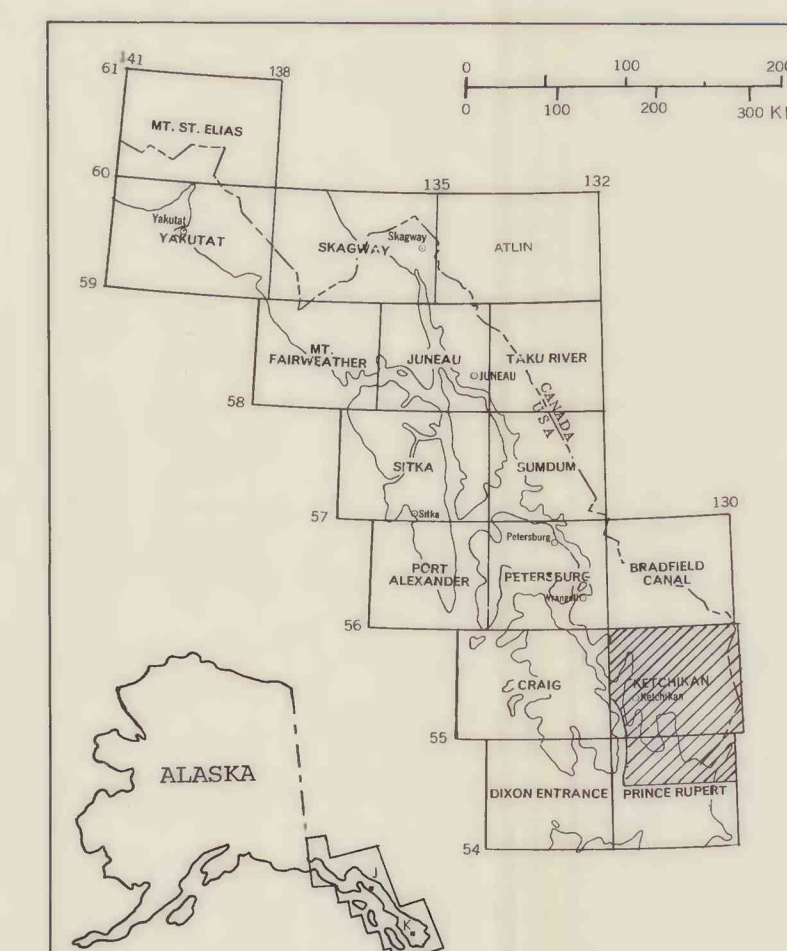
Qu	UNCONSOLIDATED DEPOSITS, UNDIVIDED (Quaternary)
QTV	VOLCANIC ROCKS (Quaternary and Tertiary)
Tmp	UNDIVIDED MIOCENE PLUTONIC ROCKS
Tep	UNDIVIDED EOCENE PLUTONIC ROCKS
TKp	UNDIVIDED TERTIARY OR CRETACEOUS PLUTONIC ROCKS
KJup	GRAVINA ISLAND FORMATION AND UNNAMED CORRELATIVE ROCKS (Lower Cretaceous or Upper Jurassic)
KJs	Ultramafic and other plutonic rocks
KJv	Metasedimentary rocks
Jts	Metavolcanic rocks
Jtsv	TEXAS CREEK GRANODIORITE (Jurassic or Triassic)
MePz	METAMORPHOSED VOLCANIC AND SEDIMENTARY ROCKS (Jurassic or Triassic)
MePzu	METAMORPHOSED SEDIMENTARY AND VOLCANIC ROCKS (Upper Triassic)
Pzs	PARAGNEISS AND AMPHIBOLITE (Mesozoic or Paleozoic)
Pzv	METAMORPHOSED ROCKS, UNDIVIDED (Mesozoic or Paleozoic)
Pzp	METAMORPHOSED SEDIMENTARY AND MINOR VOLCANIC ROCKS (Middle and upper Paleozoic)
Pzsv	FELSIC METAVOLCANIC ROCKS (Paleozoic or older)
Pzs	PLUTONIC ROCKS, CHIEFLY TRONDHJEMITE (Silurian or older)
Pzsv	METAMORPHOSED SEDIMENTARY AND VOLCANIC ROCKS (Silurian or older)

SYMBOLS

.....	Contact. Approximately located; dotted where concealed
-----	High-angle fault. Dashed where inferred; dotted where concealed
-----	Thrust fault. Dashed where concealed, inferred, or assumed
-----	Sawtooth on upper plate

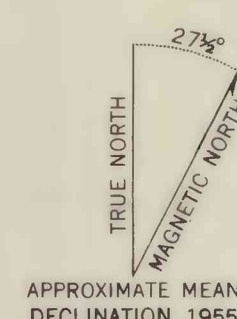
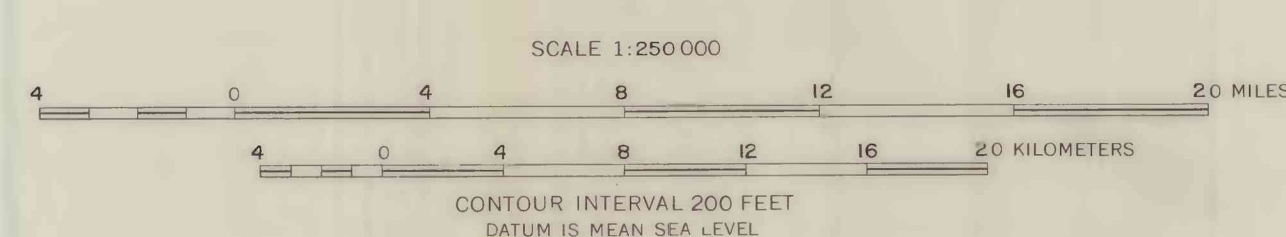
Legend

- Sample site locations for gold and silver
- + Sample site locations for silver only
- Reported value of silver of 0.5 to 1.5 ppm
- Reported value of silver of 2.0 to 7.0 ppm
- △ Reported value of gold of 0.02 to 2.50 ppm (1968-1970) and 0.05 to 2.50 ppm (1972-1977)



Base from USGS 1:250,000 topo series:
KETCHIKAN, 1955; PRINCE RUPERT, 1959.
ALASKA-CANADA.

Geology by H. Berg, R. Carten, J. Childs, A. Clark,
W. Condon, R. Diggle, G. Dunne, R. Elliott,
C. Holloway, J. Houghton, R. Koch, R. Miller,
R. Rudser, J. Smith, B. Wiggins, 1966-1977



APPROXIMATE MEAN
DECLINATION, 1955

MAP SHOWING GOLD DETERMINED BY ATOMIC ABSORPTION AND SPECTROGRAPHICALLY DETERMINED SILVER IN STREAM SEDIMENTS, KETCHIKAN AND PRINCE RUPERT QUADRANGLES, ALASKA

By
R.D. Koch, R.L. Elliott, and M.F. Diggle
1978

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