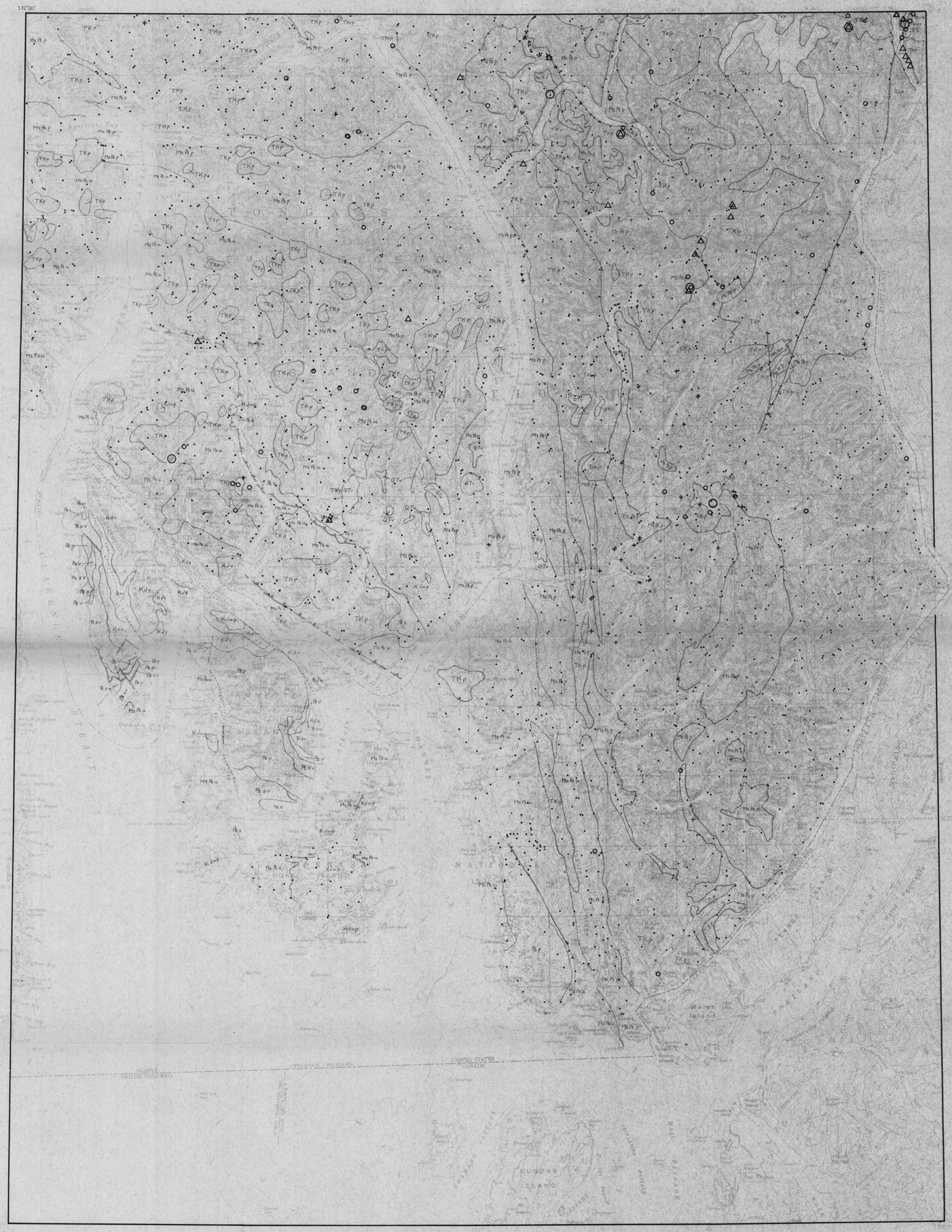
DEPARTMENT OF THE INTERIOR
UNITED STATES GEOLOGICAL SURVEY

GOLD AND SILVER

OPEN FILE REPORT
78-73 G

Folio of the Ketchikan and Prince Rupert Quadrangles, Alaska

Koch and others--Geochemistry -Au,Ag



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, M. Diggles, G. Dunne, R. Elliott, C. Holloway, J. Houghton, R. Koch, R. Miller, R. Rudser, J. Smith, B. Wiggins, 1966-1977

SCALE 1:250 000
4 0 4 8 12 16 20 MILES
4 0 4 8 12 16 20 KILOMETERS
CONTOUR INTERVAL 200 FEET
DATUM IS MEAN SEA LEVEL

APPROXIMATE MEAN DECLINATION, 1955
27½°
TRUE NORTH
MAGNETIC NORTH

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, 1978b, c). These data are also available on magnetic computer tape (Koch, Van Trump, and McDanal, 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 McDanal, 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		Eocene	
TKp			TERTIARY OR CRETACEOUS
KJup			CRETACEOUS OR JURASSIC
KJs KJv		Lower Cretaceous or Upper Jurassic	
JRt JRvs			JURASSIC OR TRIASSIC
Trsv		Upper Triassic	TRIASSIC
MzPzp MzPzu			MESOZOIC OR PALEOZOIC
Pzs		Middle and Upper Paleozoic	PALEOZOIC OR OLDER
Pzv			
Pzp		Silurian or Older	
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
	GRAVINA ISLAND FORMATION AND UNNAMED CORRELATIVE ROCKS (Lower Cretaceous or Upper Jurassic)
KJup	Ultramafic and other plutonic rocks
KJs	Metasedimentary rocks
KJv	Metavolcanic rocks
JRt	TEXAS CREEK GRANODIORITE (Jurassic or Triassic)
JRvs	METAMORPHOSED VOLCANIC AND SEDIMENTARY ROCKS (Jurassic or Triassic)
Trsv	METAMORPHOSED SEDIMENTARY AND VOLCANIC ROCKS (Upper Triassic)
MzPzp	PARAGNEISS AND AMPHIBOLITE (Mesozoic or Paleozoic)
MzPzu	METAMORPHIC ROCKS, UNDIVIDED (Mesozoic or Paleozoic)
Pzs	METAMORPHOSED SEDIMENTARY AND MINOR VOLCANIC ROCKS (Middle and upper Paleozoic)
Pzv	FELSIC METAVOLCANIC ROCKS (Paleozoic or older)
Pzp	PLUTONIC ROCKS, CHIEFLY TRONDHJEMITE (Silurian or older)
Pzsv	METAMORPHOSED SEDIMENTARY AND VOLCANIC ROCKS (Silurian or older)

SYMBOLS

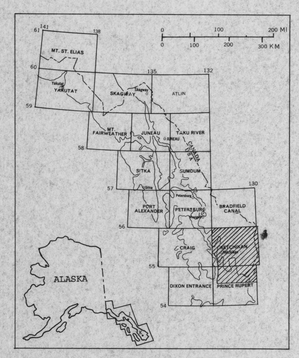
Contact. Approximately located; dotted where concealed

High-angle fault. Dashed where inferred; dotted where concealed

Thrust fault. Dashed where concealed, inferred, or assumed Sawteeth on upper plate

Legend

- Sample site locations for gold and silver
- \+ Sample site locations for silver only
- o 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)



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

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. Diggles

1978