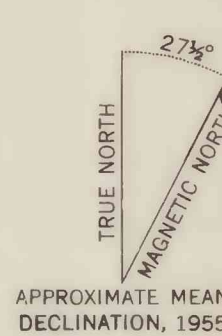
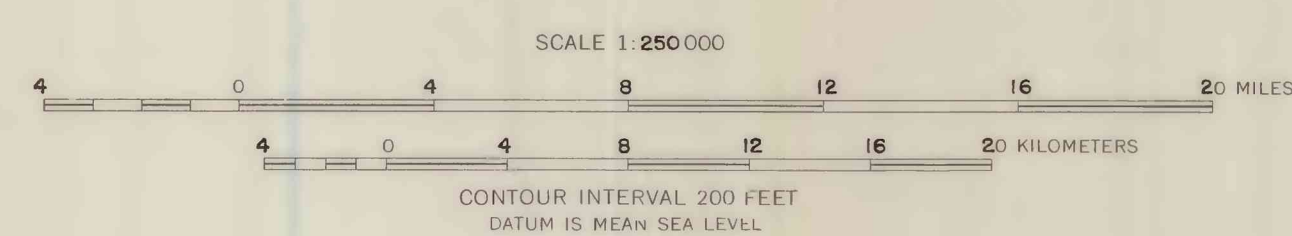




Base from USGS 1:250,000 topo series:
KETCHIKAN, 1955; PRINCE RUPERT, 1959.
ALASKA-CANADA.



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

CORRELATION OF MAP UNITS

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

Qu	} Quaternary and Tertiary
QTV	
QTV	
TMp	} Eocene
TKp	
KUp	} Lower Cretaceous or Upper Jurassic
KUs KJv	
JRT JVs	} Upper Triassic
Jsv	
MpPp MRPp	} Middle and Upper Paleocene
Psv	
Pz	} Silurian or Older
Pzv	
Pzv	

DESCRIPTION OF MAP UNITS

Qu	UNCONSOLIDATED DEPOSITS, UNDIVIDED (Quaternary)
QTV	VOLCANIC ROCKS (Quaternary and Tertiary)
TMp	UNDIVIDED MIOCENE PLUTONIC ROCKS
TKp	UNDIVIDED EOCENE PLUTONIC ROCKS
TKp	UNDIVIDED TERTIARY OR CRETACEOUS PLUTONIC ROCKS
GRAVINA ISLAND FORMATION AND UNNAMED CORRELATIVE ROCKS (Lower Cretaceous or Upper Jurassic)	
KUp	Ultramafic and other plutonic rocks
KUs	Metasedimentary rocks
KJv	Metavolcanic rocks
JRT	TEXAS CREEK GRANODIORITE (Jurassic or Triassic)
JVs	METAMORPHOSED VOLCANIC AND SEDIMENTARY ROCKS (Jurassic or Triassic)
Jsv	METAMORPHOSED SEDIMENTARY AND VOLCANIC ROCKS (Upper Triassic)
MpPp	PARAGNEISS AND AMPHIBOLITE (Mesozoic or Paleozoic)
MRPp	METAMORPHIC ROCKS, UNDIVIDED (Mesozoic or Paleozoic)
MpPp	METAMORPHOSED SEDIMENTARY AND MINOR VOLCANIC ROCKS (Middle and upper Paleocene)
Pz	FELSIC METAVOLCANIC ROCKS (Paleozoic or older)
Pzv	PLUTONIC ROCKS, CHIEFLY TRONDHJEMITE (Silurian or older)
Pzv	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

Folio of the Ketchikan and Prince Rupert Quadrangles, Alaska

Koch and others--Geochemistry -Cu

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 2321 samples which were analyzed for copper by the atomic-absorption method. Complete analytical data plus location maps (scale 1:25,000), station coordinates, and a discussion of sampling 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 McDaniel, 1978).

Background levels vary for different lithologies and in different areas. Because of this and variability introduced from other sources such as sampling practice, analytical variance, and degree of chemical weathering, it is impossible to select a specific analytical level above which values indicate mineralization. For this reason, the analytical values have been grouped into four ranges with each range represented by a different symbol on the map. Higher values may indicate a greater likelihood of bedrock mineralization but confidence levels are low for single-element "anomalies" and results which are not supported by neighboring values.

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.

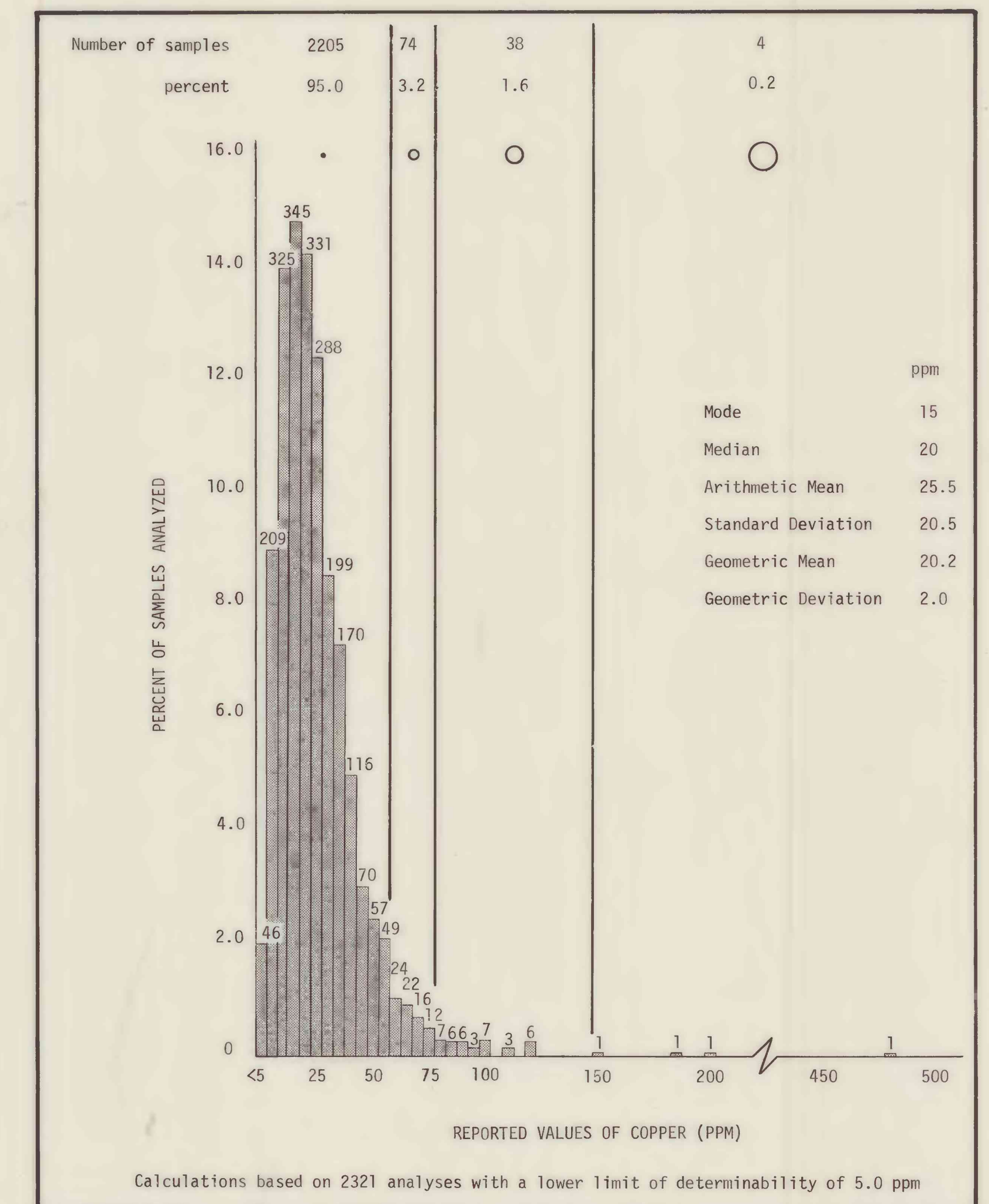
Koch, R. D., and Elliott, R. L., 1978a, Analyses of rock samples from the Ketchikan quadrangle, southeastern Alaska: U.S. Geol. Survey open-file rept. 78-156A, 163 p.

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 McDaniel, 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 Bul. 1289, 45 p.



Note
Reported values of 5 to 95 represent 5 ppm-wide class intervals and values of 100 or greater represent 10 ppm-wide class intervals. Graph bars are plotted with a consistent width of 5, to maintain correspondence between area and number of samples.

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

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

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