



Base from U.S. Geological Survey 1:250,000
Mt. Fairweather, 1961, S18a

Geology generalized from Johnson and Karl (1982)

CORRELATION OF MAP UNITS

Qal	QUATERNARY
Tt	TERTIARY (?)
Kd	CRETACEOUS (?)
Kb	CRETACEOUS
KJf	CRETACEOUS AND JURASSIC
Tg	TRIASSIC (?)
Pr	PERMIAN AND PALEOZOIC

LIST OF MAP UNITS

Qal	Alluvial deposits, undivided
Tt	Basic plutonic rocks
Kd	Mafic plutonic rocks
Kb	Diorite sill, extensively altered
KJf	Silica Gneiss
Tg	W-Lp Bay Group
Pr	Basic plutonic rocks
Pr	Mafic plutonic rocks
Pr	Whitestripe Marble
Pr	Green Dip Gneiss
Pr	Undivided metamorphic, metasedimentary, and metaplutonic rocks

SYMBOLS

- Contact, approximately located, dotted where concealed
- Boundary of study area
- Geochemical sample site
- Copper (AA) = 200 ppm
- Copper (AA) = 300-500 ppm
- Copper (AA) > 500 ppm
- Copper (Spec) = 300 ppm
- Copper (Spec) = 500-700 ppm
- Copper (Spec) > 700 ppm

STUDIES RELATED TO WILDERNESS

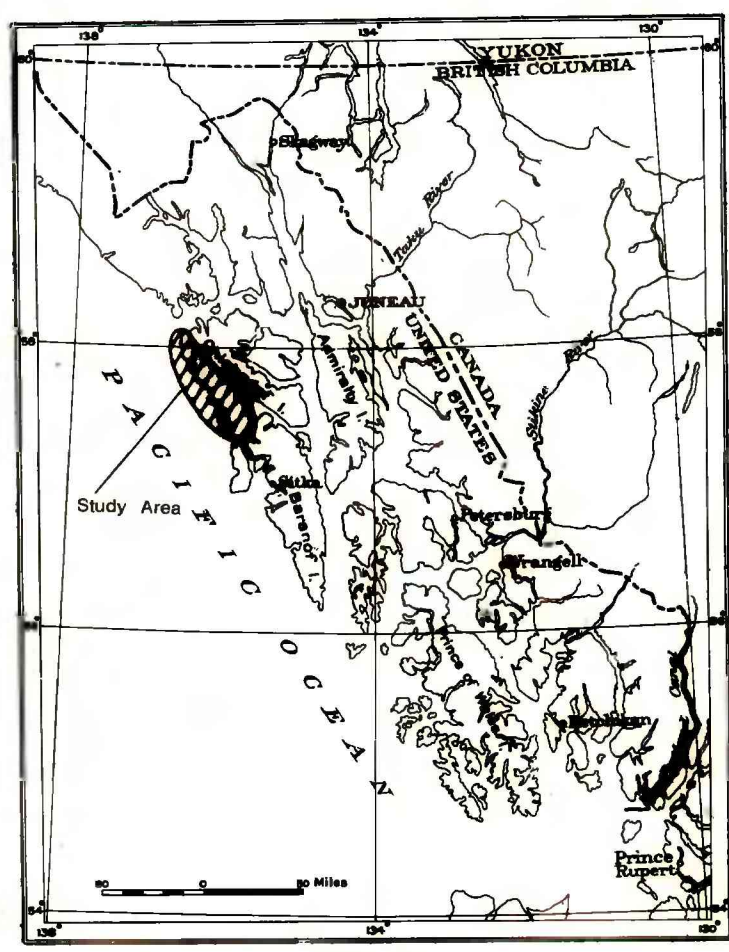
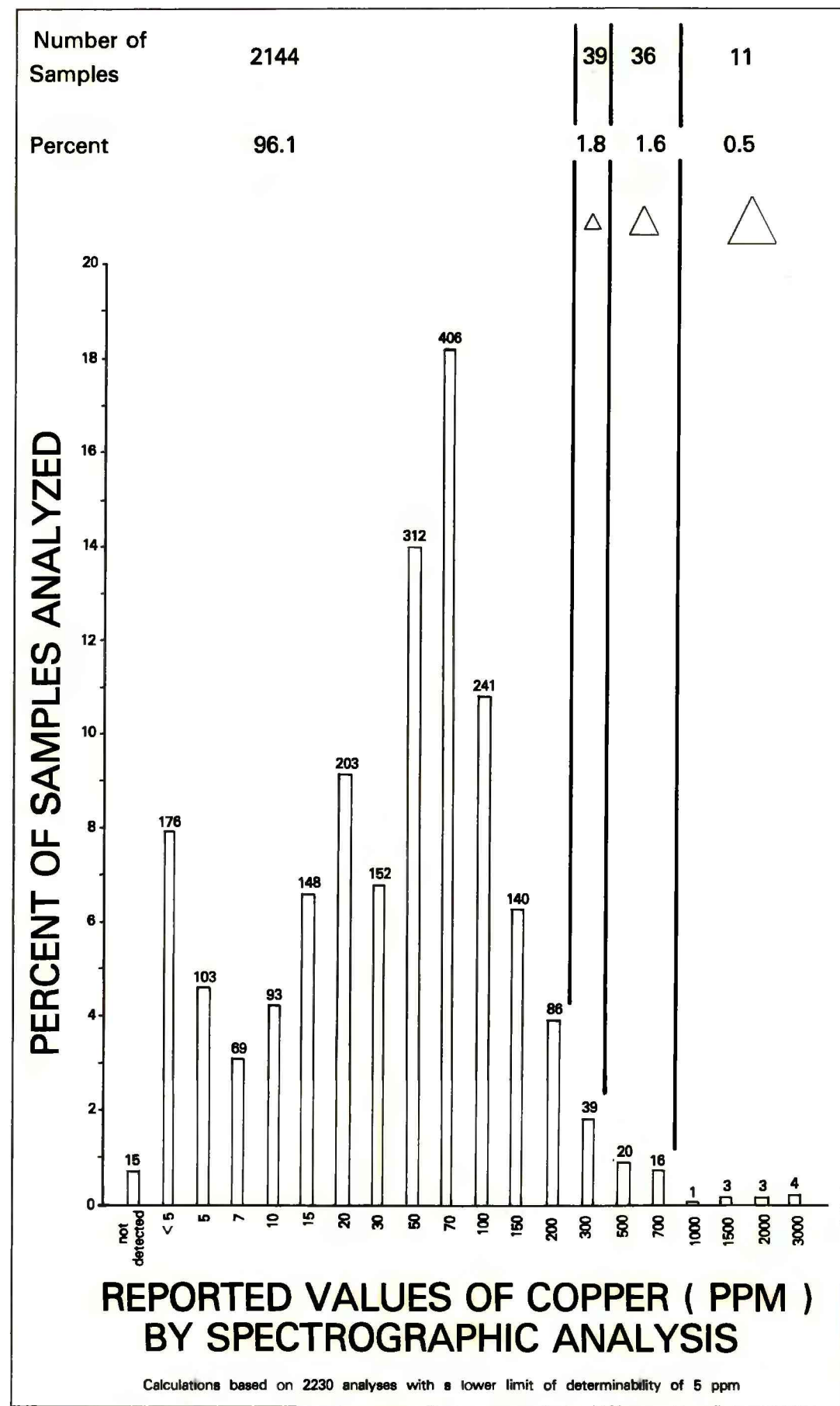
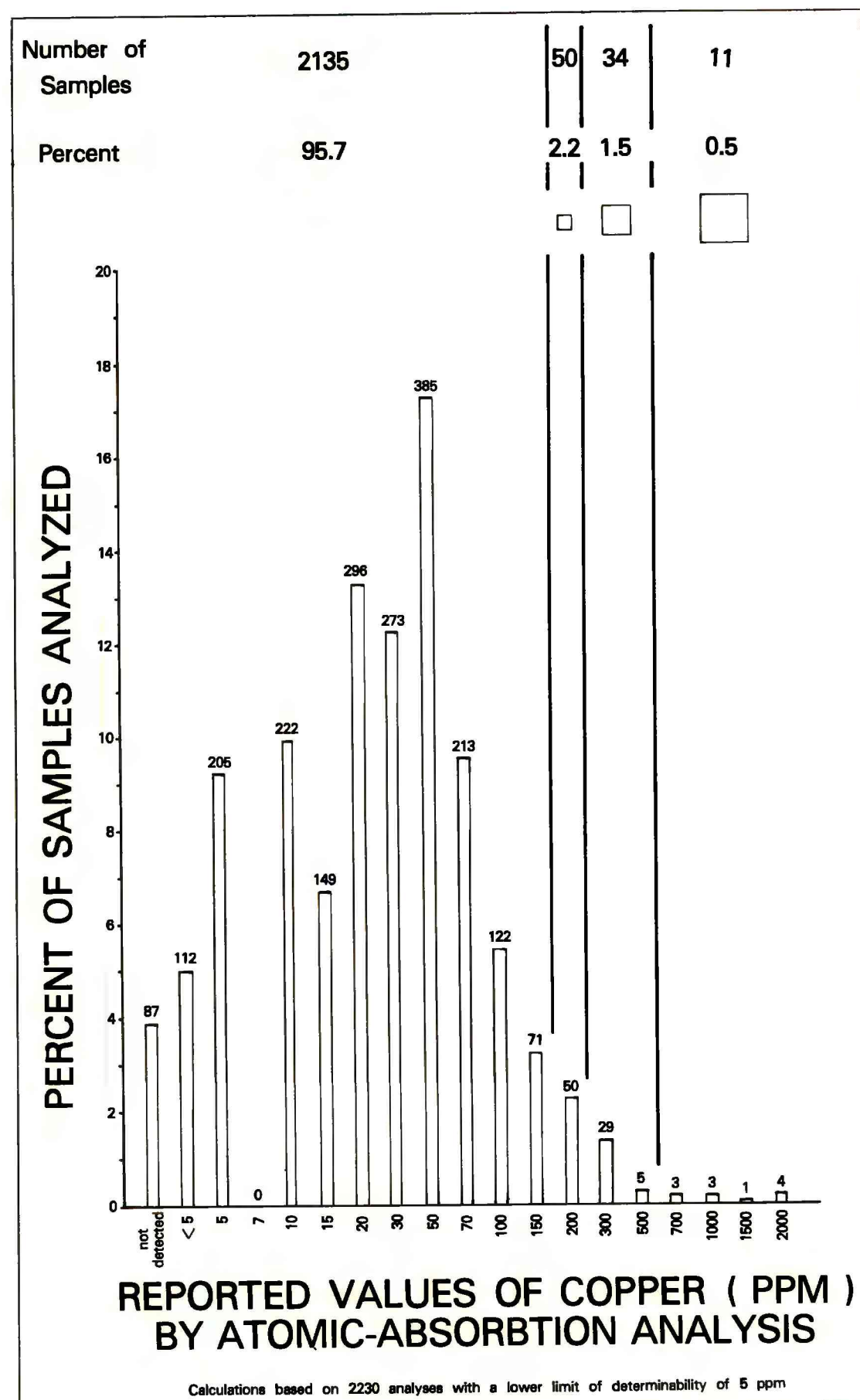
The Wilderness Act (Public Law 88-577, September 3, 1964) and related acts require the U.S. Geological Survey and the U.S. Bureau of Mines to survey certain areas on Federal lands to determine their mineral resource potential. Results must be made available to the public and be submitted to the President and the Congress. This report presents the results of a geochemical survey of the Western Chichagof-Yakobi Islands Wilderness Study Area in the Tongue National Forest, Alaska. About 65 percent of the study area was established as a wilderness on December 2, 1980, under the Alaska National Interest Lands Conservation Act (P.L. 96-487).

In the course of the U.S. Geological Survey investigations of the Western Chichagof-Yakobi Islands Wilderness Study Area, 2,330 bedrock geochemical samples were collected. Samples were analyzed for 31 elements by a 6-step, semi-quantitative spectrographic method (Grimes and Maramba, 1968) and for 4 elements by atomic absorption spectrophotometry (Ward and others, 1969). Complete analytical data, station coordinates, and a station location map are available in two reports: Johnson, 1982, and Johnson and Elliott, 1984. A map and discussion of the mineral resource potential of the study area is also available (Johnson, Kimball, and Still, 1982).

Background levels for each element vary for different lithologies in the study area. Because of this and variability introduced from other sources such as sampling technique, analytical variance, and chemical weathering, it is impossible to select a specific analytical level above which values indicate mineralization. Higher values may indicate a greater likelihood of bedrock mineralization, but confidence levels are low for single element high values and results which are not supported by neighboring values. This map shows the distribution of high analytical values for the element copper by two analytical techniques as well as the location of all 2,330 samples. Multiple symbols for a single analytical technique at one sample site represent multiple samples at that site.

REFERENCES CITED

- Grimes, D. J., and Maramba, A. P., 1968, Direct-current arc and alternating-current spark emission spectrographic field methods for the semi-quantitative analysis of geologic materials: U.S. Geological Survey Circular 591, 8 p.
- Johnson, B. R., 1982, Magnetic tape containing trace element data for bedrock geochemical samples from the West Chichagof-Yakobi Islands Wilderness Study Area, southeastern Alaska: National Technical Information Service Report No. USGS-CD-82-005, computer tape, 1 reel.
- Johnson, B. R., and Elliott, G. S., 1984, Map showing bedrock geochemical station locations, Western Chichagof-Yakobi Islands Wilderness Study Area, southeastern Alaska: U.S. Geological Survey Miscellaneous Field Studies Map MF-1476-A, scale 1:125,000.
- Johnson, B. R., and Karl, S. M., 1982, Reconnaissance geologic map of the Western Chichagof and Yakobi Islands Wilderness Study Area, southeastern Alaska: U.S. Geological Survey Miscellaneous Field Studies Map MF-1476-B, scale 1:125,000.
- Johnson, B. R., Kimball, A. L., and Still, J. A., 1982, Mineral resource potential map of the Western Chichagof and Yakobi Islands Wilderness Study Area, southeastern Alaska: U.S. Geological Survey Miscellaneous Field Studies Map MF-1476-B, scale 1:125,000.
- Ward, F. R., Nakagawa, H. M., Harns, T. F., and Van Sickle, G. W., 1969, Atomic absorption methods of analysis useful in geochemical exploration: U.S. Geological Survey Bulletin 1289, 45 p.



SCALE 1:125,000
0 2 4 6 8 MILES
0 2 4 6 8 KILOMETERS

MAP SHOWING THE DISTRIBUTION AND ABUNDANCE OF COPPER IN BEDROCK SAMPLES, WESTERN CHICHAGOF AND YAKOBI ISLANDS WILDERNESS STUDY AREA, SOUTHEASTERN ALASKA

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This map is preliminary and has not been reviewed
editorially or geologically, but the stratigraphic
nomenclature has been approved previously.