

LIST OF MAP UNITS

Qal	Alluvial deposits, undivided
Ti	Triassic
ME	Mafic plutonic rocks
Kd	Kierulff silt, extensively altered
Ks	Silica Crystallites
Kb	Kelp Bay Group
Kif	Felsic plutonic rocks
Kie	Mafic plutonic rocks
W	Wentzville Marble
Wm	Coal Mt. Gneiss
M	Metasediments, metamorphic, and metaplutonic rocks

CORRELATION OF MAP UNITS

Qal	QUATERNARY
Ti	TRIASSIC (?)
Kd	CRETACEOUS (?)
Ks	CRETACEOUS
Kb	CRETACEOUS AND JURASSIC
W	TRASSIC (?)
M	MESOZOIC AND PALEOZOIC

SYMBOLS

-----	Contact, approximately located, dotted where concealed
-----	Boundary of study area
*	Geochemical sample site
△	Nickel = 150 ppm
△	Nickel = 200 ppm
△	Nickel > 200 ppm
□	Chromium = 500 ppm
□	Chromium = 700 ppm
□	Chromium > 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 geological survey of the Western Chichagof-Yakobi Islands Wilderness Study Area in the Tongass National Forest, Alaska. About 50 percent of the study area was established as a wilderness on December 7, 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, 2,230 bedrock geochemical samples were collected. Samples were analyzed for 11 elements by a G-4600, semi-quantitative spectrographic method (Grimes and Narreson, 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, 1982. A map and discussion of the mineral resource potential of the study area is also available (Johnson, Kibball, 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 elements nickel and chromium as well as the location of all 2,230 samples. Multiple symbols for a single element at one sample site represent multiple samples at that site.

REFERENCES CITED

Grimes, D. J., and Narreson, A. F., 1968, Spectrographic method for the determination of 11 elements in rock samples: U.S. Geological Survey Circular 391, 6 p.

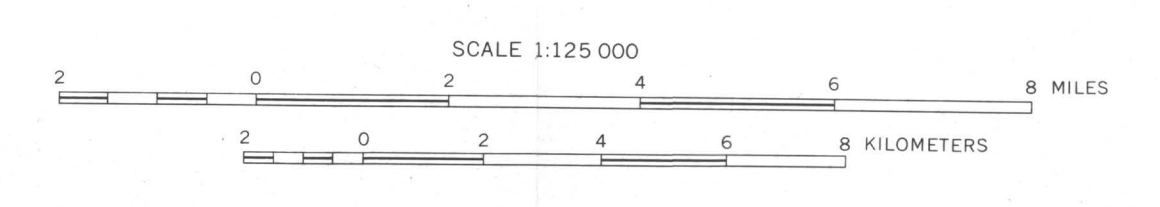
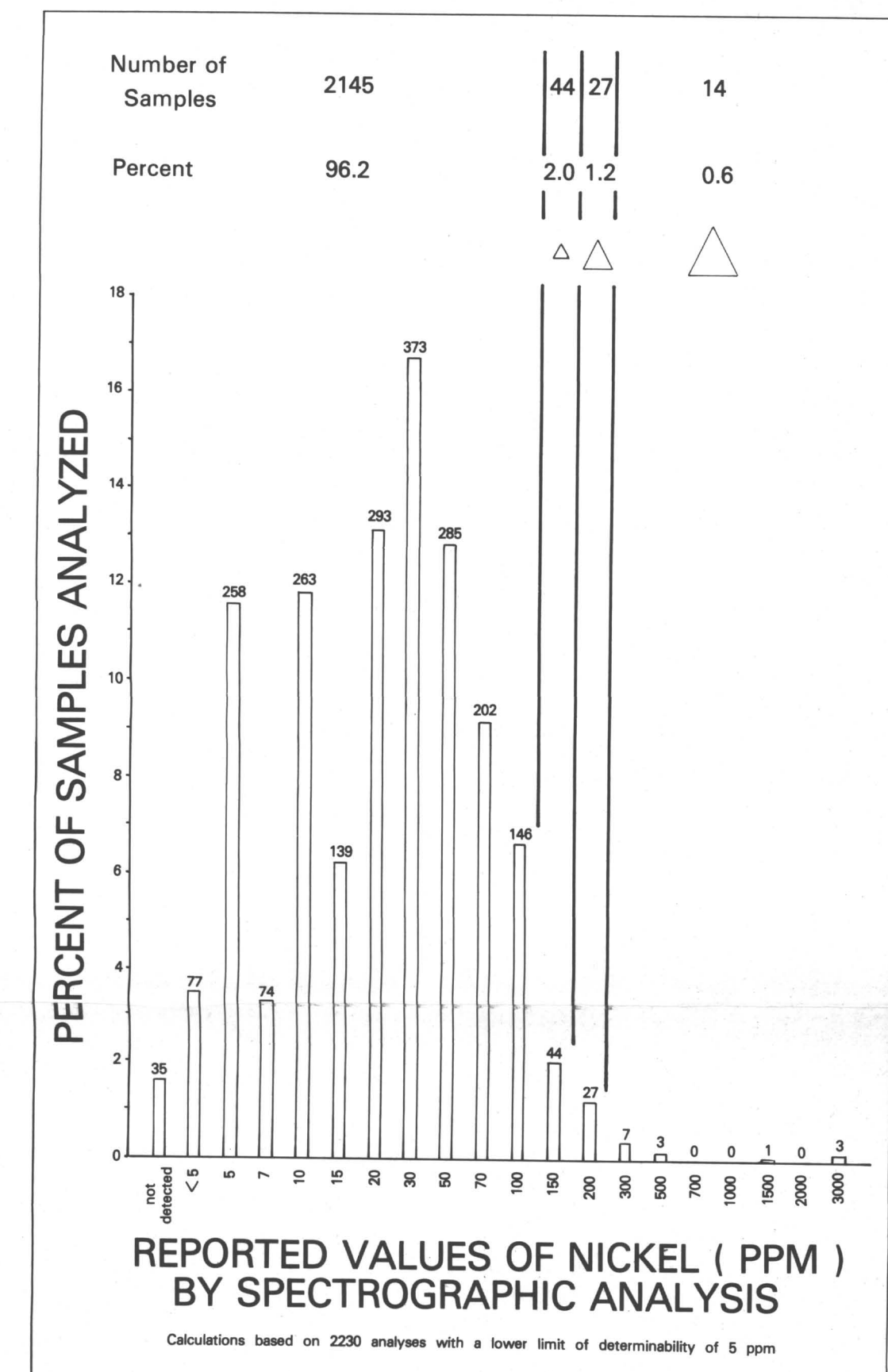
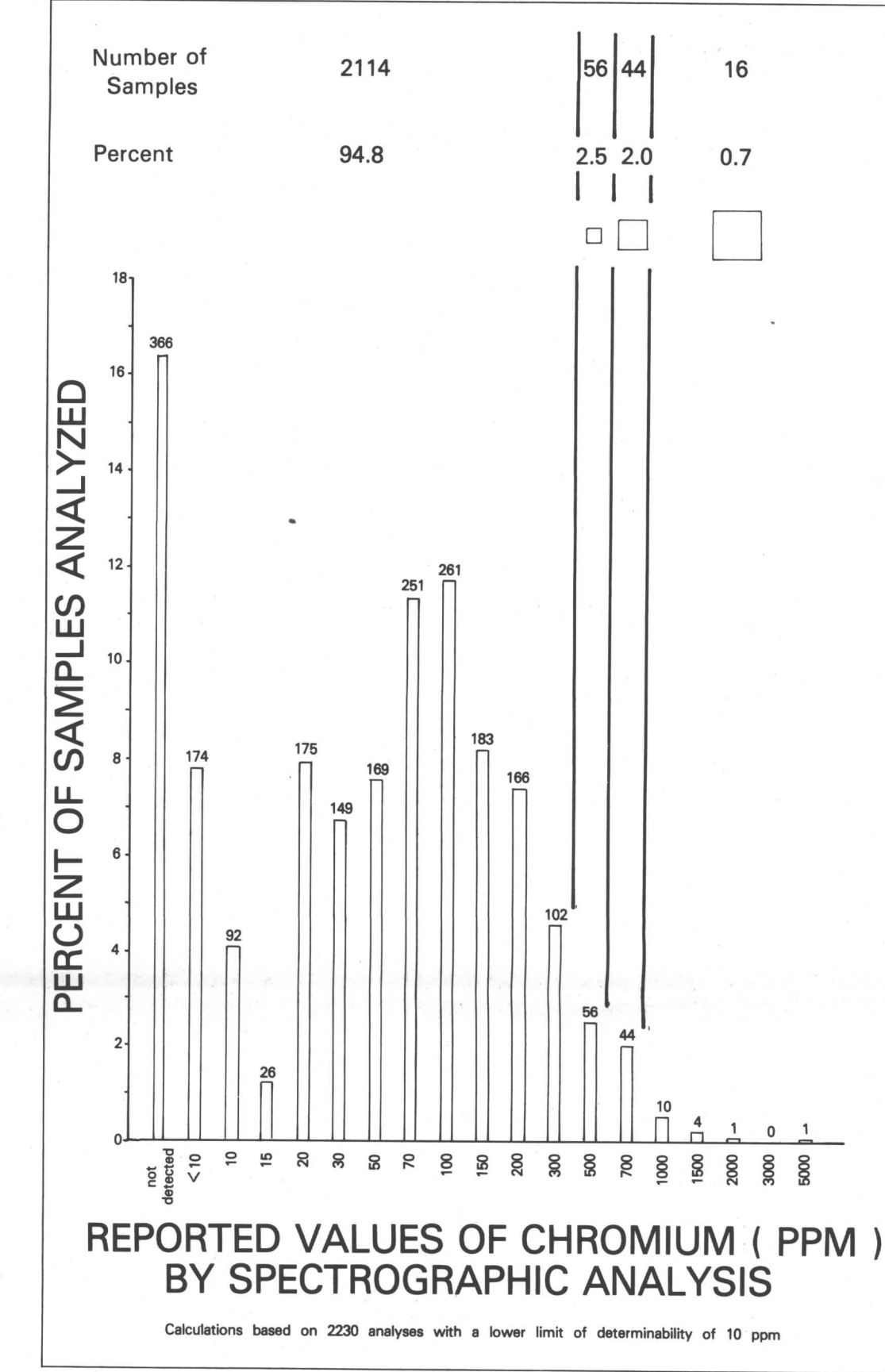
Johnson, B. R., 1982, Magnetic tape containing trace element data for bedrock geochemical samples from the West Chichagof-Yakobi Islands Wilderness Study Area, southeastern Alaska: National Technical Information Service Report No. 82-2027-3007, computer tape, 1 reel.

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Ward, F. W., Nakagawa, H. M., Harne, T. P., and Van Nieuwen, R. W., 1969, Atomic absorption methods of analysis useful in geochemical exploration: U.S. Geological Survey Bulletin 1289, 45 p.



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

By  
Bruce R. Johnson and Geoffrey S. Elliott  
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This map is preliminary and has not been reviewed for conformity with U.S. Geological Survey editorial standards, but the spectrographic data have been approved previously.