

LIST OF MAP UNITS	
Qal	Alluvial deposits, undivided
Tf	Priest plutonic rocks
ME	Mafic plutonic rocks
Kd	Diorite sill, extensively altered
Ks	Sirna Graywacke
KKh	Kelp Bay Group
KJf	Felsic plutonic rocks
KJn	Mafic plutonic rocks
Mw	Whitestripe Marble
Ng	Green Dip Greenstone
MPaP	Undivided metasedimentary, metavol-

CORRELATION OF MAP UNITS

Qn1	QUATERNARY
Tt Tm	TERTIARY (?)
Kd	CRETACEOUS (?)
Ks	CRETACEOUS
Kkb	
KJf KJm	CRETACEOUS AND JURASSIC
Tu	TRIASSIC (?)
Tg	
Na Pzu	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

3. 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 geochronological survey of the Western Chugach-Yakutat National Preserve Study Area in the Tongass 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 Chicago-Yakobi Island Wilderness Study Area, 2,230 bedrock geochemical samples were collected. Samples were analyzed for 31 elements by a 6-step, semiquantitative spectrographic method (Grimes and Mazzanino, 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 Smith, 1982. A detailed discussion of the mineral resource potential of the study area is also available (Johnson, Kithell, and Smith, 1982).

different lithologies in the study area. Because of this and variability introduced from other sources such as sampling technique, analytical variance, and sample size, the values are not to be taken as a specific analytical level above which values indicate mineralization. Higher values may indicate a greater likelihood of bedrock mineralization, but confidence levels are not provided. The values are not a result, 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 2,330 samples. The numbers in the circles represent the sample site represent multiple samples at that site.

## REFERENCES CITE

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 materials: U.S. Geological Survey Circular 591, 6 p.

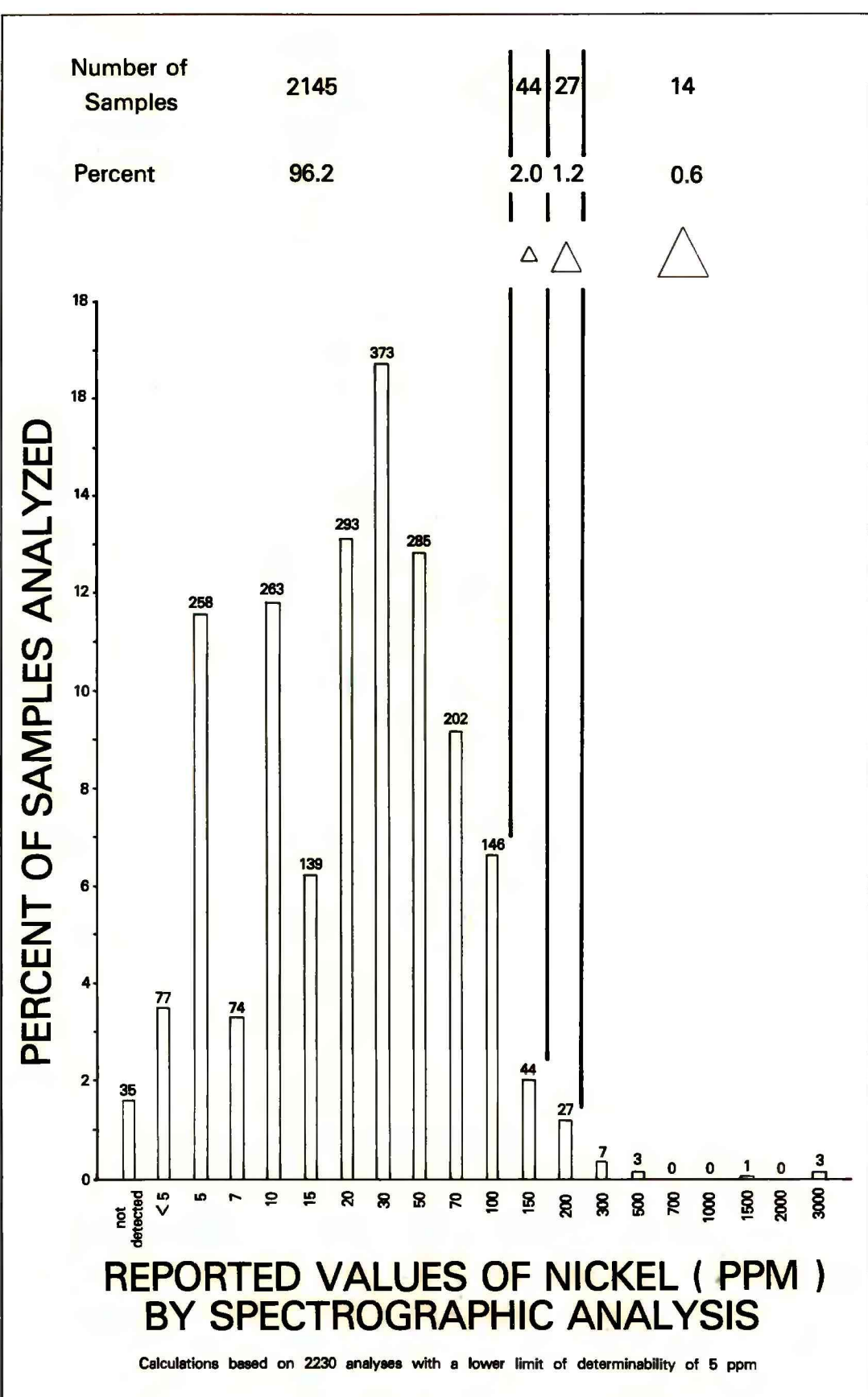
Johnson, E. R., 1982, Magnetic tape containing trace element data for bedrock geochemical samples from the West Chichagof-Yakobi Islands Wilderness Study Area, southeastern Alaska: National Technical Information Service Report No. USGS-GD-82-005, ~~unpublished~~.

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 Open-File Report 81-0027-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-A, scale 1:125,000.  
Johnson, B. R., Kimball, A. L., and Still, Jan, 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

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



SCALE 1:125 000

2 4 6 8 MILES

2 4 6 8 KILOMETERS

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 stratigraphic nomenclature has been approved previously.