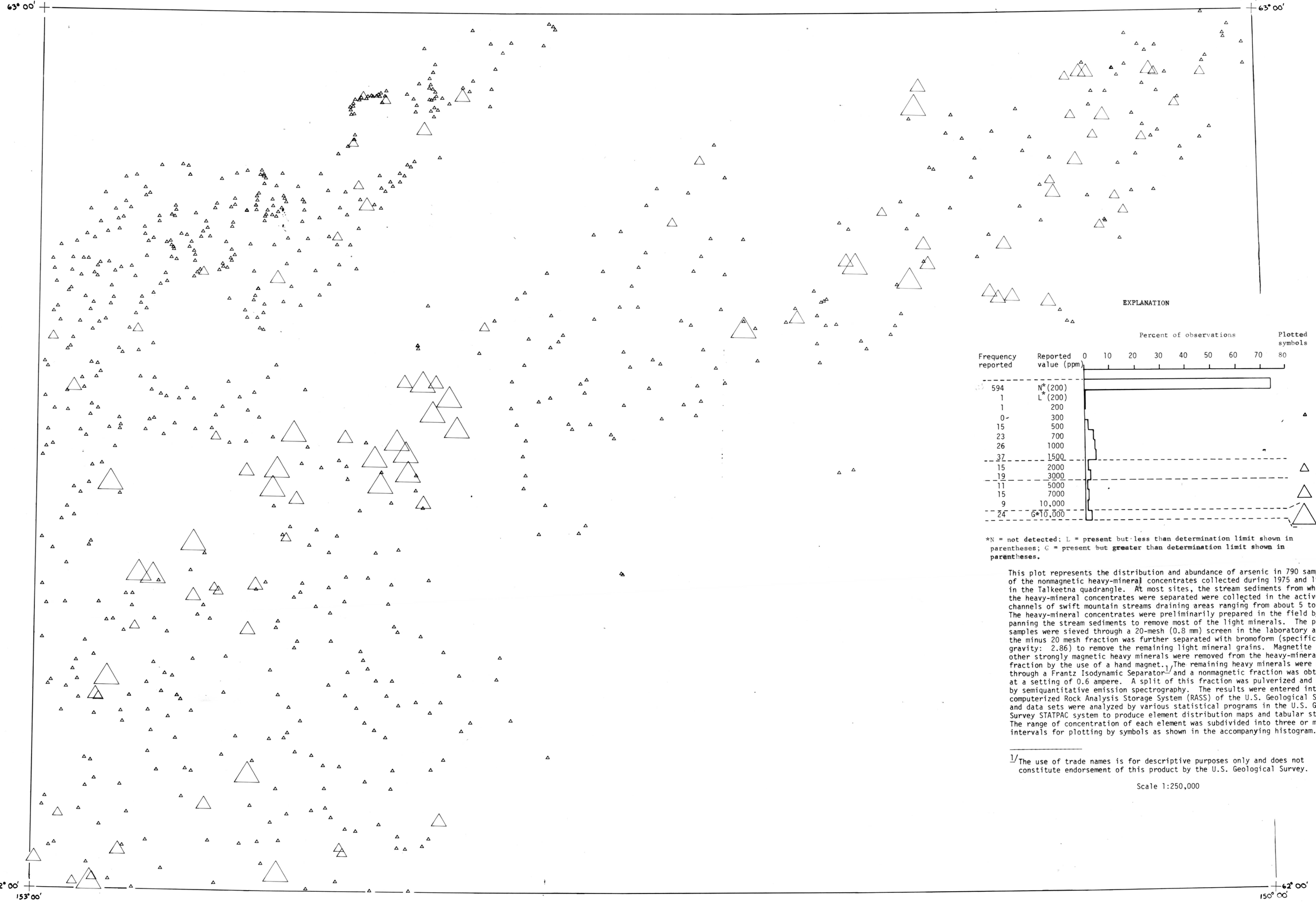
DEPARTMENT OF THE INTERIOR
UNITED STATES GEOLOGICAL SURVEY

OPEN-FILE REPORT
78-301
SHEET 3 OF 15



EXPLANATION

*N = not detected; L = present but less than determination limit shown in parentheses; G = present but greater than determination limit shown in parentheses.

This plot represents the distribution and abundance of arsenic in 790 samples of the nonmagnetic heavy-mineral concentrates collected during 1975 and 1976 in the Talkeetna quadrangle. At most sites, the stream sediments from which the heavy-mineral concentrates were separated were collected in the active channels of swift mountain streams draining areas ranging from about 5 to 10 km^2. The heavy-mineral concentrates were preliminarily prepared in the field by panning the stream sediments to remove most of the light minerals. The panned samples were sieved through a 20-mesh (0.8 mm) screen in the laboratory and the minus 20 mesh fraction was further separated with bromoform (specific gravity: 2.86) to remove the remaining light mineral grains. Magnetite and other strongly magnetic heavy minerals were removed from the heavy-mineral fraction by the use of a hand magnet. The remaining heavy minerals were passed through a Frantz Isodynamic Separator[1/] and a nonmagnetic fraction was obtained at a setting of 0.6 ampere. A split of this fraction was pulverized and analyzed by semiquantitative emission spectrography. The results were entered into the computerized Rock Analysis Storage System (RASS) of the U.S. Geological Survey and data sets were analyzed by various statistical programs in the U.S. Geological Survey STATPAC system to produce element distribution maps and tabular statistics. The range of concentration of each element was subdivided into three or more intervals for plotting by symbols as shown in the accompanying histogram.

[1/] The use of trade names is for descriptive purposes only and does not constitute endorsement of this product by the U.S. Geological Survey.

Scale 1:250,000

MAP SHOWING DISTRIBUTION PATTERN OF ARSENIC IN NONMAGNETIC HEAVY MINERAL CONCENTRATE SAMPLES

GEOCHEMICAL MAPS SHOWING DISTRIBUTION AND ABUNDANCE OF SELECTED ELEMENTS IN THE TALKEETNA QUADRANGLE, ALASKA

by

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