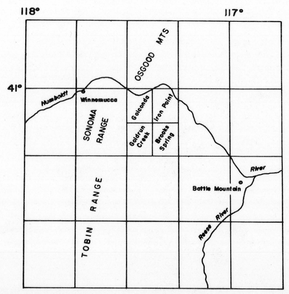
DEPARTMENT OF THE INTERIOR
UNITED STATES GEOLOGICAL SURVEY

DISCUSSION

Detailed geologic and geochemical studies of the four 7 1/2-minute quadrangles that make up the Edna Mountain 15-minute quadrangle in Humboldt County, Nevada, were begun during the 1969 summer field season. The objectives of the project are to map the geology of this structurally complex area at 1:24,000 scale and to determine the regional distribution and abundance of metals in rocks of the area and the factors that control the distribution and abundance of those metals. Tungsten-bearing hot-spring tufa, metalliferous black shale in Ordovician rocks, base-metal and barite deposits in Paleozoic sedimentary rocks, and copper-molybdenum in granodiorite plutons of Cretaceous age occur in the Edna Mountain area. None of these deposits have been of much economic significance, although tungsten was mined from the hot-spring deposits during World War II.

The numerous occurrences of mineralized ground, however, along with the broad spectrum of types of mineralization, intensity of alteration, structural complexity, and abundance of intermediate to silicic igneous intrusive rocks suggest that concealed or heretofore unrecognized mineral deposits may exist in the area. Integrated geologic, geochemical, and geophysical studies on a district-wide scale might improve our understanding of the factors that control the distribution, methods of emplacement, and spatial and genetic relationships (if any) of these different types of deposits. We hope that broad target areas or guidelines for mineral exploration in this area may be identified.

This series of maps shows the distribution and abundance of mercury, arsenic, antimony, tungsten, gold, copper, lead, and silver related to a geologic and aeromagnetic base in the Golconda and Iron Point 7 1/2-minute quadrangles. All samples are rock samples; most are from shear or fault zones, fractures, jasperoid, breccia reefs, and altered rocks. All the samples were prepared and analyzed in truck-mounted laboratories at Winnemucca, Nevada. Arsenic, tungsten, copper, lead, and silver were determined by semiquantitative spectrographic methods by D. F. Siems and E. F. Cooley. Mercury and gold were determined by atomic absorption methods and antimony was determined by a colorimetric method by R. M. O'Leary, M. S. Erickson, and others.



Map showing location of Golconda and Iron Point quadrangles

GEOCHEMICAL, AEROMAGNETIC, AND GENERALIZED GEOLOGIC MAPS SHOWING DISTRIBUTION AND ABUNDANCE OF GOLD AND COPPER, GOLCONDA AND IRON POINT QUADRANGLES, HUMBOLDT COUNTY, NEVADA

BY R. L. ERICKSON AND S. P. MARSH, 1971

For sale by U.S. Geological Survey, price $1.00 per set

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