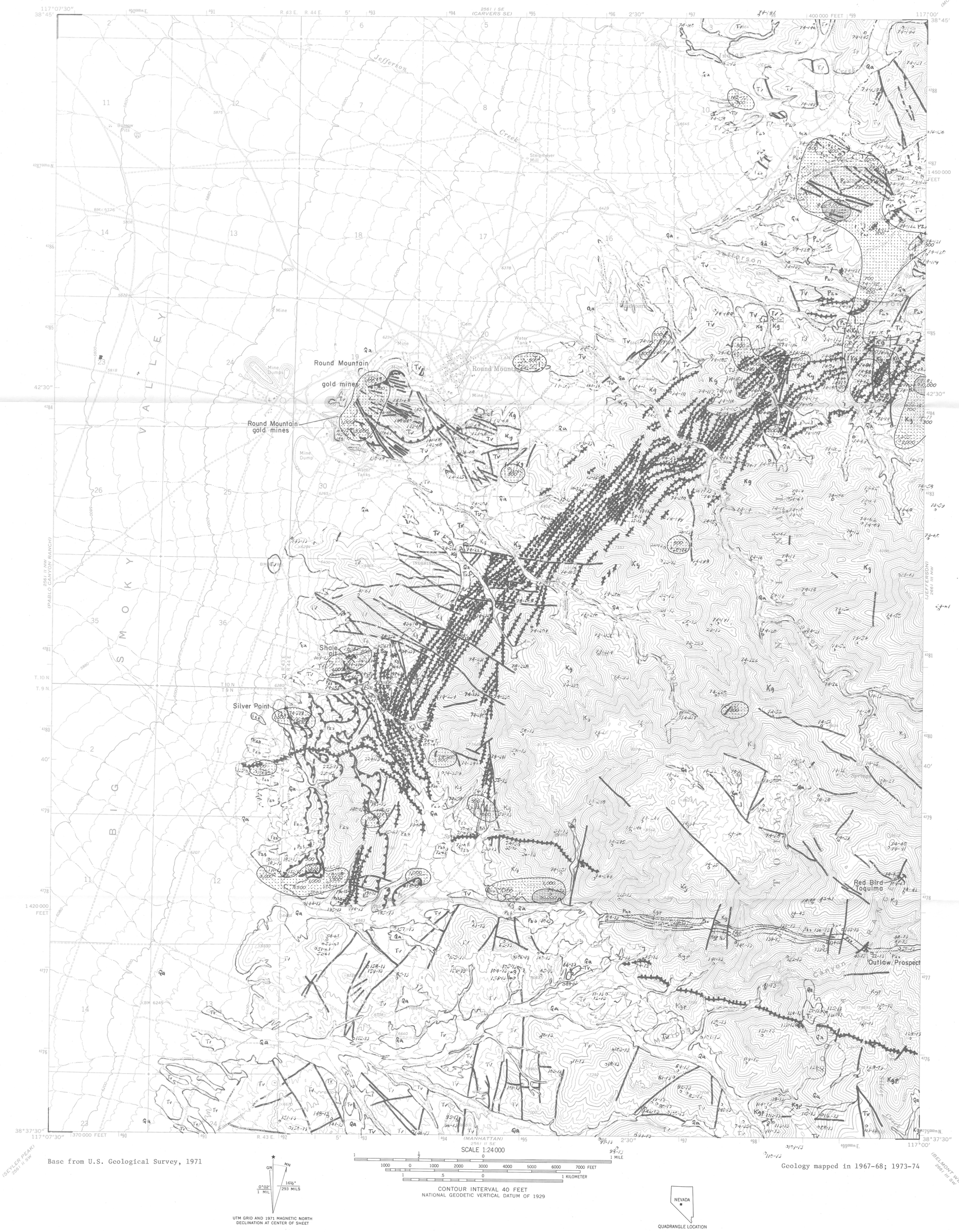
DEPARTMENT OF THE INTERIOR
UNITED STATES GEOLOGICAL SURVEY

MISCELLANEOUS FIELD STUDIES MAP MF-835D
Zn, ROUND MTN. QUAD., NEVADA



EXPLANATION

Qa	ALLUVIUM (QUATERNARY)
Tv	VOLCANIC ROCKS (TERTIARY)
Td	DIORITE (TERTIARY)
	RHYOLITE (TERTIARY)
Kg	GRANITE (CRETACEOUS)
Kgp	PORPHYRITIC GRANITE (CRETACEOUS)
Pzs	SEDIMENTARY ROCKS (PALEOZOIC)
	HIGH-ANGLE FAULT
	LOW-ANGLE FAULT
	CONTACT
123-73	SAMPLE LOCALITY

ISOPLETHS--Separate areas characterized by the reported element concentrations. Number shows zinc content in parts per million

- Zn not detected
- 200-3,000 ppm Zn
- 5,000-50,000 ppm Zn

DISCUSSION

This series of geochemical maps shows the distribution and abundance of iron, copper, lead, zinc, molybdenum, silver, antimony, arsenic, tungsten, barium, potassium, and boron in the Round Mountain quadrangle, Nye County, Nevada. These maps are intended to provide help in exploration for possible concealed mineral deposits in the quadrangle.

Samples were collected from bedrock throughout the quadrangle to assess the abundance and distribution of metals and other elements that outline mineralized systems and may indicate exploration targets. The samples were collected from the most intensely mineralized rock in any given locality, and are from shear or fault zones, fractures, jasperoid bodies, veins, and altered rocks. None of the samples necessarily represents a body of rock large enough to be mined economically.

Iron-oxide stain is the most conspicuous effect of mineralization in the rocks of the quadrangle, and most of the geochemical samples were collected because of the presence of iron-oxide stain. The iron oxide is almost certainly the result largely of weathering of pyrite in mineralized rocks. Accordingly limonite pseudomorphs after cubic pyrite are widespread.

All the elements discussed were determined by the semiquantitative spectrographic method by H. G. Neiman, M. W. Solt, and J. C. Hamilton. The elements were reported in the series 1, 0.7, 0.5, 0.3, 0.2, 0.15, 0.1, and so on. Approximate lower limits of determination for the elements reported here are: Fe, 0.001 percent; K, 0.7 percent; Cu, 1 ppm (parts per million); Pb, 10 ppm; Zn, 300 ppm; Ag, 0.5 ppm; Mo, 3 ppm; Sb, 200 ppm; As, 1,000 ppm; W, 100 ppm; Ba, 2 ppm; and B, 20 ppm. Under favorable conditions greater sensitivity is attainable for some of these elements.

Areas of highly anomalous values are outlined on the map. I emphasize that the isopleth lines surround areas in which the collected samples show the indicated values; most rock adjacent to and between sample localities may contain much lower elemental values than do the collected samples.

Most of the geochemical samples collected in the Round Mountain quadrangle contain less than 200 ppm zinc, below the general lower limit of determination of the metal. Any samples in which zinc was detected obviously contain an anomalously high amount. Zones in which geochemical samples contain 200-3,000 ppm zinc are clearly clustered near the northwest-striking faults in the northeast corner of the quadrangle, near the small diorite stock east of Round Mountain, and peripheral to a posutlated stock south of Round Mountain. Highest amounts of zinc (5,000-50,000 ppm or 5 percent) are near the outer edges of the clusters of high-zinc samples that ring intrusive centers. If related to the postulated porphyry-copper system(s), the highest zinc values would appear to be in an outer zone of metalization.

Base from U.S. Geological Survey, 1971

Geology mapped in 1967-68; 1973-74

SCALE 1:24 000

1 MILE

1 KILOMETER

CONTOUR INTERVAL 40 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929

UTM GRID AND 1971 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

QUADRANGLE LOCATION

GEOCHEMICAL AND GENERALIZED GEOLOGIC MAP SHOWING DISTRIBUTION OF ZINC IN THE ROUND MOUNTAIN QUADRANGLE, NYE COUNTY, NEVADA

By
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1977

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