

## VELVET DISTRICT

## LOCATION

The Velvet mining district lies on the western slopes of the Trinity Range, south central Pershing County. Gold mines and prospects of the district are clustered in Section 6, T27N, R29E, in a small basin on the west side of Trinity Peak. Several large diatomite mines, also included in the Velvet district, are located about six miles to the north in the western portion of T28N, R29E.

## HISTORY

The first mining activity in the Velvet district dates from about 1915 and in the period between 1915 and 1919 rich lenses of gold ore yielded about \$20,000 in production. Minor production was recorded in 1935 but there has been little except prospecting activity in the area since that time. Diatomaceous earth was first shipped from mines in the northern part of the district in 1923 and large-scale production of diatomite began in 1958. These mines are now only semi-active. The gold mines were not active when the district was visited in the spring of 1984, but recent claim staking activity was evident and some rotary drilling has been done in the area within the past 2 or 3 years.

## GEOLOGIC SETTING

Rocks in the Velvet district consist of an eastward dipping sequence of late Tertiary rhyolitic ash-flow tuffs, flows, and tuffaceous sediments. Some of the tuffs contain fragments of phyllite derived from the Triassic-Jurassic Auld Lang Syne Formation which underlies the Tertiary volcanics but is not exposed locally. Lenses of tuffaceous sediments, cemented by opal, chalcedony, and alunite, are interbedded with the tuffs (Masterson and Kyle, 1984). Diatomaceous earth, interlayered with rhyolitic flows, crops out to the west of Velvet. The diatomite is thicker and purer to the north of the district, however, where deposits several tens of meters thick are mined by Eagle-Pitcher Co. (Johnson, 1977).

The tuffs and tuffaceous sediments which host gold mineralization at Velvet dip eastward at about 20 degrees and are cut by north-northeast-trending normal faults. The strikes of some large quartz veins are parallel to these normal faults, but areas of intense hydrothermal alteration contain at least two sets of veins with differing strikes, indicating that alteration and mineralization were concentrated in areas of intersecting fractures. The dip of north-trending veins and basalt dikes varies from 58 degrees to vertical, with westward dips most common (Masterson and Kyle, 1984).



## ORE DEPOSITS

The largest mine workings in the district are at the Velvet Mine. The shaft there was sunk on a N20°W, 75°SW shear zone which cuts argillically altered tuff. Fragments of hydrothermal breccia can be found on dumps near the shaft. To the south (at sample site 1481) a breccia zone with cockscomb quartz along it is exposed at the mouth of an adit. This zone strikes N70°E, dips 75°W, and cuts argillized ash-flow tuff. Jarosite was noted in several locations in the workings in the central part of the district, occurring as clots and masses filling voids in breccias.

Rocks exposed in the basin surrounding the Velvet Mine are extensively bleached and kaolinized. The alteration, however, does not appear to extend up into the flows which cap the range to the east. The majority of the old workings explore N20°W and N70°E, near-vertical structures, and the hydrothermal breccia noted appears to occur along these structures or at intersections of the two.

## GEOCHEMICAL RELATIONSHIPS

All samples taken in the Velvet district contained detectable gold along with anomalous arsenic values. One sample, of a silicified rubble zone at the main Velvet shaft, contained 3.6 ppm (.10oz/ton) gold along with 1700 ppm arsenic. Antimony values were low, and did not seem to correlate with gold values.

## SELECTED REFERENCES

- Johnson, M. G. (1977) Geology and mineral deposits of Pershing County, Nevada: Nevada Bureau of Mines and Geology Bull. 89.
- Masterson, W. D., and Kyle, J. R. (1984) Geological, geochemical, stable isotope, and fluid inclusion characteristics of epithermal gold mineralization, Velvet district, Nevada: Journal of Geochemical Exploration, v. 20, p. 55-74.
- Vanderburg, W. O. (1936) Reconnaissance of mining districts in Pershing County, Nevada: U.S. Bureau of Mines Information Circular 6902.