

NBMG OFR 83-11  
See also 83-12 for  
geochemical results.

SILVER PEAK DISTRICT

(101)  
Item 48

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The Silver Peak district covers a large area in the east-central Silver Peak range, extending between Piper Peak on the west and the town of Silver Peak on the east. The larger Silver Peak district includes what were originally two separate centers of mining activity, Red Mountain to the south, just east of Piper Peak, and Mineral Ridge to the east, on the east point of the Silver Peak range. These two areas, as well as being geographically separated, are geologically distinct, and the type and age of mineralization are unique to each area.

Earliest recorded discoveries in the area were in the Red Mountain part of the district in 1863, and discoveries were made in the Mineral Ridge area the following year (Lincoln, 1923). In the 1920's, activity around the Francis (Sanger) mine immediately north of the old Red Mountain area, resulted in the name Argentite district being applied to that area. This name, however, did not survive.

The Silver Peak district has the second largest recorded production within Esmeralda county, and its geology and mineral resources are well described in the literature. The best information sources are: Shamberger (1976) for history and general background; Spurr (1906) for mine descriptions in the Mineral Ridge area, Keith (1977) for descriptions in the Red Mountain area. The references should be consulted for detailed information on the various subjects. Our work in this district was limited to reconnaissance and limited sampling in a few selected areas.

Ore deposits in the southern (Red Mountain) part of the district are silver-bearing veins in volcanic rocks of mid-Pliocene age that are related to the Silver Peak caldera. The Nivloc, Sixteen-to-One, and Mohawk mines, as well as several smaller deposits, lie in a mineralized zone that trends northwest. The veins

themselves, however, strike northeast (Albers and Stewart, 1972). The veins are typically banded, with fine-grained argentite occurring in a gangue of quartz, calcite, barite, siderite, and locally, manganosiderite. The veins are within Tertiary volcanic host rocks that have been dated at 5.9 m. y. (Albers and Stewart, 1972). The deposits in the northern (Mineral Ridge) part of the district are mainly gold bearing quartz veins and irregular quartz masses within the Precambrian Wyman Formation. The lenses generally dip at low angles, and typically wedge, split, and fork along both dip and strike Spurr (1906). Spurr (1906) states that the ore is a typical white crystalline quartz which contains finely disseminated free gold. Some gold is also present in pyrite and galena. Mines in the Mineral Ridge part of the district include the Mary, Drinkwater, and Vanderbilt deposits, all northwest of the town of Silver Peak.

From the descriptions available, it is obvious that there are at least two periods of mineralization present within the district, an older set of gold-bearing veins in the Mineral Ridge area, and a younger system of silver-bearing veins associated with volcanics related to the Silver Peak caldera. The known silver deposits at the Mohawk and Sixteen-to-One mines occur along northeast-trending faults, possibly related to the ring fracture zone along the southeast margin of the caldera. There are numerous other northeast-trending structures that are mapped cutting the caldera. These features seem to be concentrated along the southeast margin of the caldera, but there are some which cut through the area of Piper Peak but do not extend into the caldera itself. It would seem that the entire area around the margins of the caldera feature would demand attention as an exploration target.

The only major metal mining activity within the district at the time of our examination was at the Sixteen-to-One mine. Sunshine Mining Company began

operations there in 1982 on an orebody with estimated reserves of 9.5 million ounces of silver and 36,729 ounces of gold.

Also included within the Silver Peak district is the large lithium-brine operation of the Foote Mineral Company. Lithium-rich brines are pumped from wells in Clayton Valley, northeast of Silver Peak, and are allowed to flow into large surface ponds and evaporated. The lithium salts are then recovered from the surface of the dry ponds.

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