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BELLEHELEN DISTRICT

LOCATION

The Bellehelen district is located in the northern Kawich Range, about 50 miles east of Tonopah. The mines of the district are located to the southeast of the old town of Bellehelen, in Bellehelen Canyon on the west side of the range and at the head of Neversweat Canyon on the east side of the range.

HISTORY

Gold was discovered in this district in 1904 and the camp was most active during the years 1909-10 (Paier, 1970). One operator is said to have produced \$500,000 from mines of the district after 1910, but this figure cannot be confirmed (Paier, 1970). During the 1917-1921 period, Pacific States Mining and Milling Company reported production of \$117,000 from Bellehelen (Kral, 1951). The only recorded production from the district, however, is \$29,473. for 1917 (Couch and Carpenter, 1943). A 50-ton cyanide mill was built in 1922 and operated intermittently until 1927 but no production is recorded for any of those years (Kleinhampl and Ziony, 1984). There was no activity in the district in the fall of 1985, but an area north and west of the Ben Hur Mine has been drilled within the last few years.

GEOLOGIC SETTING

The northern Kawich Range in the vicinity of Bellehelen is underlain by multiple ash-flow sheets of Oligocene-Miocene age. The source for this tuff is the Kawich caldera which lies in the northern portion of the range, just south of Bellehelen Canyon (Gardner and others, 1980). A major lineament passes northwesterly through the Kawich Range at Bellehelen. This structure, known as the Bellehelen lineament or Bellehelen fault zone (Gardner and others, 1980), or the Kawich-Toiyabe lineament (Snyder and Healey, 1983), apparently controls the location of the mines of the district.

ORE DEPOSITS

All of the known ore deposits of the Bellehelen district lie within the confines of the northwest-trending Bellehelen fault zone which forms the northeastern boundary of the Kawich caldera (Gardner and others, 1980). The ash-flow tuffs which form the host rocks for the ore deposits are commonly silicified and argillized in the vicinity of the mine workings. Although all of the mines and prospects of the district are aligned along the major northwest trend, orebodies at the individual deposits occur along silicified east-west trending fissures. At the Ajax Mine on the northwest margin of the district, pyrite and unidentified gray sulfides occur along a north-dipping, east-west striking silicified zone. At the Ben Hur Mine, in the central part of the district, mineralization occurs along a northwest-trending structure where it is cut by east-west trending fissures. Both sets of structures are silicified. At the Merger Mine, at the head of Neversweat Canyon on the east side of the district, cerargyrite and native gold occur along spaced northeast-trending shear zones. Vein-like silicified zones along the east-west fissures vary from a few inches up to several feet thick and contain wispy gray streaks of sulfides in a siliceous matrix.

GEOCHEMICAL RELATIONSHIPS

Ore samples from the Bellehelen district contained high silver values and moderate to high gold values associated with moderately anomalous arsenic and low to moderate antimony values. Molybdenum values in all samples are higher than would be expected for the type of mineralization present at Bellehelen, and one sample contained 300 ppm molybdenum. Other base metal values were very low in all samples.

SELECTED REFERENCES

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