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Item #9
58MOREY DISTRICT

LOCATION

The Morey mining district is located on the east flank of the central Hot Creek Range in northeastern Nye County. The major mines of the district are located within Section 5, Township 9 North, Range 51 East, but there are scattered prospects to the northwest and southeast.

HISTORY

Ore was discovered in Morey Canyon in 1865, the district was organized in 1866. A stamp mill was constructed to treat district ores in 1873. Intermittent production is reported from the district beginning in 1866 and extending to 1965. The most productive years were between 1866-1891 and 1937-1947. Total recorded production for the district is at least 6,511 tons of ore with a value of at least \$475,523 (Kleinhampl and Ziony, 1984). In more recent years (1970-present), International Minerals and Chemical Corp., Superior Oil Co., and Billiton Exploration have conducted exploratory drilling in the central and western part of the district.

GEOLOGIC SETTING

The Morey district is underlain by as much as 7,000 feet of Tertiary pyroclastic rocks. These rocks have been divided into a number of rhyodacitic to quartz latitic intracaldera ash-flow tuff units which are associated with the Oligocene Morey Peak caldron, complex. The high morey Peak massif probably represents the resurgent part of a caldera, and the mining district may be low on the northern flank of the resurged dome within the caldera and partly within a complexly faulted moat zone between the dome and the caldera margin.

ORE DEPOSITS

The ore deposits at Morey are high-grade, silver-bearing, epithermal fissure veins hosted by rhyodacitic to quartz-lattitic ash-flow tuffs of the Oligocene Williams ridge and Morey Peak Formations (Ekren and others, 1974). The veins strike east-west, are vertical or dip steeply to the south, and are oxidized in their upper portions. The mineralogy of the veins is complex. The main ore minerals are diaphorite, owyheeite, andorite, pyrargyrite, and stephanite (Williams, 1968). These minerals occur in the veins along with a rare and unusual mineral assemblage which includes sphalerite, galena, stibnite, jamesonite, cassiterite, pyrite, and arsenopyrite (Kleinhampl and Ziony, 1984). Most of the vein material observed on the dumps was composed of alternating bands of quartz and rhodochrosite containing clots and stringers of ruby silver (pyrargyrite).

One-half mile southwest of the base of Morey Canyon, a major northwest-striking fault displaces the productive veins. On the northeast side of the fault, in the vicinity of the main workings, the upper oxidized portions of the veins are exposed adjacent to propylitically altered tuffs. Southwest of the fault, the tuffs show quartz-sericite alteration.

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The most recent exploration work in the district has been to the west of the central mine area where anomalous lead, silver, molybdenum, and tin values were found with disseminated sulfides in sericitically altered tuffs.

GEOCHEMICAL RELATIONSHIPS

Ore samples taken from the district showed high silver values, with trace gold, in association with very high arsenic, antimony, cadmium, lead, and zinc. Copper values are high, but not in the same range as lead and zinc. Tin was very high in the samples taken, but only very low molybdenum was present.

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