

From NBMG OFR 83-9  
See also 83-10 for  
geochemical results. ISLAND MOUNTAIN DISTRICT

(61)  
Item 6

2470 0006  
The Island Mountain mining district is located in northernmost Elko County. It occupies the southeast flank of Tennessee Mountain and the dry, mountainous area south of Tennessee Mountain which includes Cornwall Mtn., Cornwall Basin and Rosebud Mtn. The north half of the district is in the National Forest, the southern half is under BLM administration. The district's present name is derived from a prominent hill located along its southern boundry. Various portions of the district were formerly known as the Wyoming, Gold Creek and Mardis mining districts.

Between 1873, when the first placer deposits were discovered, and 1900, two boomtown settlements, Penrod and Gold Creek, sprouted in the southern part of the district. The towns were created in response to the discovery and mining of prosperous placer deposits located along Gold Creek, Hammond Canyon, Coleman Canyon, Penrod Creek, Big Ben Creek, Poorman Creek, Mill Creek and Martin Creek. Although the unavailability of water hampered mining of the placers, an estimated 40,000 ounces of gold were recovered by 1901, making it one of the most successful placer areas in the state of Nevada. Intermittent mining of the deposits through 1958 produced an additional 740 oz. of gold and 252 oz. of silver (Smith, 1976). Today, the area is blanketed by numerous patented claims and mining of the deposits occurs on an occassional basis.

Replacement and vein-type lode deposits, which are probably the source for the placer gold, were discovered early in the history of the district, but not actively developed until the mid 1900's. The best developed mines of this type are located on the southeast flank of Tennessee Mountain and on Rosebud and Cornwall Mountains. In addition to the main mines, numerous prospects and exploration cuts are present on the hillsides throughout the area.

The area underlying the district, as mapped by Coash (1967) and Bushnell (1967), is composed of a highly segmented, commonly fault juxtaposed section of lower and upper Paleozoic limestones and fine clastic sediments. The sediments are deformed and overlain by extensive Tertiary rhyolite flows and tuffs, minor andesite flows and small pockets of placer gravels and bouldery alluvium. Northeast-striking faults cut the sediments and volcanics and are displaced by more recent northwest-striking structures. Apparent recent movement of the north and northwest-striking faults is indicated by the tilting of gravels along one of these structures in the lower Gold Creek drainage (Coash, 1967).

The St. Elmo Mine, located on the northeast flank of Cornwall Mountain, is developed in gold and silver-bearing quartz vein hosted by Cambrian Prospect Mountain quartzites. The veins are emplaced along a northwest-striking fault which parallels one of the younger faults mapped in the area. The source of the vein is not certain since the mine is situated several miles from the nearest outcropping intrusive. Production from the mine is not known. During 1980 and 1981 the mine was worked on a small scale as an underground operation. (Schilling, 1980 and 1981).

Located one mile north of the St. Elmo Mine are the most productive workings in the district, the Rosebud and Diamond Jim (formerly Mardis) mines. The mines explore fissure vein and shear zone deposits that contain lead and silver sulfides, in addition to some copper and gold (Bushnell, 1967). At the Diamond Jim mine, mineralized quartz gangue fills a northwest-striking structure about 9 feet wide (Bushnell, 1967). The mine has been productive intermittently since 1950 and was listed as a small scale, open-pit gold and silver operation during 1980 and 1981. (Schilling, 1980 and 1981).

Coash (1967) notes that the mineralization found along fault zones in the district is post-volcanic. However, the vein deposits, which usually occupy fault

structures, occur only in pre-Tertiary rocks. These deposits may in fact be related to an earlier intrusive episode, being emplaced prior to or during volcanism.

A small stock intrudes thin-bedded Permian sediments in the west-central part of the district. This body is less than one square mile in area and underlies the ridge between Hammond and Coleman Canyons. Coats (1972) states that the intrusive ranges in composition from a hornblende-biotite diorite to a quartz monzonite. The body is probably Jurassic or Cretaceous in age. The siliceous sediments lying within one mile of the intrusion are hornfelsed and show slight epidotization (Coats, 1967). Where the body intrudes limestone beds, small replacement deposits formed. These deposits have yielded only small amounts of gold, silver and copper. Quartz veins associated with this body carry minor gold and silver with smaller amounts of stibnite, sphalerite and tetrahedrite (Coats, 1972).

The Coffeepot stock forms the northern boundary of the district (see Alder district for a description of the stock). The Little Joe Tungsten mine lies near the contact between the stock and thin-bedded limestones and phyllites. Dikes and veins associated with the stock occur in the mine area. Scheelite reportedly occurs in tactite (averaging 0.11%  $WO_3$ ), in calcite veins and in quartz veins. The overall grade and size of the deposit is less than similar deposits located to the northwest in the Alder district. Past production from the deposit totals only a few tons of quartz vein material which contained 3%  $WO_3$  (Johnson, 1963).

In 1941 and 1942, a small amount of antimony was produced from the Gribble antimony (Star Metal) mine located on the lower southern flank of Tennessee Mountain. Pods of stibnite occur in quartz veins which occupy a northeast-striking breccia zone within thin-bedded limestone and shale of the Pennsylvanian Tennessee Mountain Formation (Lawrence, 1963). The deposit is apparently within

the contact zone developed adjacent to the Coffeepot stock as scheelite is also present, occurring within fault zones and in stringers of calcite. According to Bushnell (1967), the ore produced from this mine contained 0.9-1.5% tungsten, 27% antimony and small amounts of lead and zinc.

North of Wild Horse Reservoir in the southwest corner of the district are several claims developed by shallow bulldozer pits and trenches. The claims, named Goodluck, Mystery, Good Morning and Pot Luck, explore an occurrence of uranium in Tertiary rhyolites and tuffs (Garside, 1973).

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