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(135) Item 7

SPRING CITY DISTRICT

LOCATION

The Spring City, or Paradise Valley mining district is located in the hills about 8 miles northeast of the town of Paradise Valley, northern Humboldt County. The major mining properties are located in Sections 21, 22, 27, and 28, T43N, R40E, along the western crest of the Red Hills, a southeast-trending range extending to the east from the main Santa Rosa range. Most of the mines in the district are within the boundaries of the Humboldt National Forest.

HISTORY

Lindgren (1915) gives the discovery date of the district as 1868, and states that the district was organized in 1873. Thompson and West (1881) describe the Mount Rose mining district, in the same location, as being prospected in the 1860's and being organized in 1871. Stamp mills were constructed at Queen City on Martin Creek, about 5 miles to the southeast of the mines, in 1874 to treat ores from the district. The mines were most active between 1879 and 1891. Some work took place in 1907, 1915, and a small mill was constructed on Spring City Creek in the early 1930's to treat tailings and new ore. Total recorded production for the district, 1879 through 1912 (last year of recorded production) is $1,545,362 in silver and gold (Couch and Carpenter, 1943). There has been renewed activity in the district in the past few years, and several large claim blocks cover most of the old district. There was, however, no evidence of drilling or other exploration work seen at the time of our examination (September, 1984).

GEOLOGIC SETTING

The area of the Spring City district is underlain by black phyllite and dark knotted schist, probably of Jurassic-Triassic age. To the west of the district, a large body of Tertiary granodiorite, possibly related to the Santa Rosa pluton, cuts the older metamorphic rocks. An irregular-shaped body of intrusive rhyolite(?) crops out to the east of the mineralized area, forming a boundary between the older rocks and the extensive volcanic flows of the Owyhee Plateau to the east. Rhyolite dikes occur in the area of the mines parallel to some of the mineralized veins.

ORE DEPOSITS

The mines in the Spring City district were developed on sulfide-bearing quartz veins which follow wallrock foliation or shear zones. Two general types of veins were seen during the examination of the district. Large, very prominent white quartz veins crop out on the ridge just west

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of the old Spring City townsite. The largest vein strikes N80E, dips 30-40 degrees to the northeast and rolls along both strike and dip to conform to cleavage planes in the knotted schist wallrock. Very old workings along the outcrop of this vein indicate that it may be the site of the original work in the district. The white outcrop of the vein on the ridge can be seen for miles to the southwest and no doubt led prospectors to the area. Several other parallel veins crop out nearby, and a porphyritic rhyolite dike follows the trend of the vein on the west. The massive white, bull-quartz veins carry some tetrahedrite but appear to be only weakly mineralized—they were heavily prospected but not extensively mined. These veins, in part, show brecciation and later cementing with clear quartz possibly indicating a second period of mineralization.

The second system of veins seen in the district are less prominent in outcrop, follow north-south to N10E strikes, but appear to have carried better mineralization. The major mine in the district, the Silver Butte (Paradise Mine, Wildgoose Vein) follows a north-south shear zone and has a kaolinized rhyolite dike on its east wall. Both the dike and the vein strike almost perpendicular to wallrock foliation. This vein contains pyrite and arsenopyrite in addition to tetrahedrite.

The close association of the vein mineralization with rhyolite dikes may indicate that the ores at Spring City are associated with the volcanic activity to the east rather than with the Santa Rosa range intrusive rocks. The large, barren white quartz may be an early stage, related to similar quartz veins in the Santa Rosa range. Brecciation of these veins, later clear quartz cement, and precious metal-bearing sulfides would be associated with the rhyolite plug cropping out east of Spring City Creek.

GEOCHEMICAL RELATIONSHIPS

All of the ore samples collected in the main portion of the Spring City district were very high in silver, and all contained detectable gold. Three samples from the Bullion-Wildgoose vein system ranged from 6.8 ppm (.20 oz) to 54 ppm (1.57 oz) gold. The gold-silver values are associated with high arsenic and antimony values and with lessor lead and copper and low zinc values. Samples from this district contained essentially no manganese and were very low in barium, both common to other precious metal deposits in the state.

SELECTED REFERENCES

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