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TRINITY DISTRICT

LOCATION

The Trinity district covers about 260 square miles in central Pershing County with its center located about 12 airline miles NNW of Lovelock. The Trinity Mountain range crosses the district, diagonally from the southwest to the northeast. State Highway 48, from Lovelock-Sulphur, crosses the southwest corner of the district while several lessor roads cross the northeast corner. Roads up Trinity and Black Rock Canyons provide limited access from the east, while secondary routes from Highway 48 allow access up both Poker Brown and Willow Creek Canyons from the west.

HISTORY

George Lovelock is credited with making the first silver strike in the Trinity Range in 1859. The exact location of Lovelock's find is not known with certainty but it is thought to be in Trinity Canyon on the east side of the range. According to Lincoln (1923) the district was organized in 1863 and its first mine, the Evening Star, was operational the following year with its own five-stamp mill. Less is known about the other mines in Trinity Canyon, but activity began to decrease by 1865 and the mill was moved to Oreana where it treated ores from the Montezuma Mine in the Arabia district. Activity at the Trinity Canyon mines continued intermittently until 1942, but placer mining, which started in 1936, continued until 1963. Northwest of the Trinity mines at the head of Black Rock Canyon are the remnants of the Esther Mine, a small tungsten producer inactive since the 1940's. The biggest operation in the district now belongs to the U.S. Gypsum Co., who developed the Pearl Hill perlite deposits and began ore shipments in 1953 to their processing facility 5 miles north of Lovelock.

GEOLOGIC SETTING

The northern and eastern portions of the district consist primarily of metasediments and granitic rocks with volcanics along the margins and covering most of the southwest portion of the district. The metasediments are slates, hornfels and quartzite of Jurassic-Triassic age that have been intruded by granodiorite stocks of Cretaceous age (Johnson, 1977). Quartz vein systems cut both the sediments and granitic stocks. The Tertiary volcanic sequence is dominantly tuffs and rhyolites.

ORE DEPOSITS

Five types of ore deposits occur in the Trinity district; mineralized shear zones commonly associated with mafic dikes that or may not be controlled by joint sets, a contact deposit in a small roof pendant surrounded by granodiorite, perlite, deposits associated with rhyolite intrusives and placer deposits in Trinity Canyon.

At the Evening Star Mine mineralization follows two parallel veins in granodiorite that are deeply weathered and altered along the contact. The veins trend N65°-76°E and dip around 70°S. They have been explored by inclines, adits and prospects that are old and generally unsafe to enter. Visable mineralization includes; chalcopyrite, pyrite, galena, and possible silver sulfides. Hydrothermal brecciation is common with limonite alteration along the contact zones.

The Esther Tungsten Mine is about 2 miles northwest of Trinity Canyon on a small roof pendant within a granodiorite stock. The mine produced about 16 tons of ore averaging 0.96 WO_3 in 1943 according to Johnson (1977). Tactite ore from the deposit can be seen in dumps outside a small adit below a shallow shaft and has visable epidote, scheelite and minor copper minerals and molybdenite. The principal ore minerals are reported to be scheelite and powellite.

Perlite is currently being mined at the Pearl Hill quarry by the U.S. Gypsum Co. Mining is done using a bench quarrying method and the ore is trucked to a processing plant north of Lovelock.

The older silver-lead workings north of Willow Creek in Sec. 3, T29N,R30E are along brecciated and highly oxidized quartz veins in northeast trending shears. The veins are hosted in slates(?) of Triassic-Jurassic age. Sample 2825 was taken from a vein crossing a stream course in sediments that was prospected by a small adit. The vein is approximately 10 feet thick at the stream crossing. Sample 2826 was taken from a dump adjacent to a collapsed shaft sunk in breccia and quartz veins. Similar prospects to these dot the landscape along the west side of the range within the outcrop area of older sedimentary rocks. At the time of our investigations a five square mile area centered along Willow Creek on the west side of the district had been staked and was being drilled. Interest is centered on a sizeable area of altered volcanics surrounding the older workings on Willow Creek.

Placer gold was recovered from Trinity Canyon and neighboring gulches between 1936 and 1963. The active springs at the head of Trinity Canyon provided a constant flow that made it easy to placer mine the narrow drainages.

GEOCHEMICAL RELATIONSHIPS

Of the three mines sampled in Trinity Canyon all had detectable gold that ranged in value from 1.5 to 8.0 ppm. Silver ranged from 20 to 1000 ppm and copper, antimony, lead, zinc, arsenic, and boron were also anomalous. None of these mines have been active for many years.

A sample from the Esther Mine which was partly from quartz veins as well as the tactite zone contained 5000 ppm tungsten, 500 molybdenum, 150 ppm silver with minor lead, zinc, and copper.

Analyses from the old workings in Section 3 ran .20 and .45 ppm gold, above 2000 ppm arsenic, greater than 1000 ppm antimony, over 2000 ppm zinc, 500 and 1000 ppm silver, 100 and 300 ppm tin, with anomalous bismuth and cadmium.

SELECTED REFERENCES

Johnson, M. G. (1977) Geology and Mineral Deposits of Pershing County, Nevada: NBMG Bull. 89.

Lincoln, F. C. (1923) Mining Districts and Mineral Resources of Nevada: Nevada Newsletter Publishing Co., Reno.

Paher, S. W. (1970) Nevada Ghost Towns and Mining Camps: Howell-North, San Diego.