GOLCONDA DISTRICT

LOCATION

The Golconda mining district is generally centered on the town of Golconda, located 27 km east of Winnemucca. The district is located adjacent to the west of the Iron Point mining district, and includes properties near Golconda Summit on U.S. Interstate 80, in the group of hills south of the town of Golconda, and at the extreme southern end of the Osgood Mountains.

HISTORY

The district is named for the town and railroad station of Golconda. It was first known as Greggsville, for W.C. Gregg, who discovered and organized the district in 1866 (Carlson, 1974). Gold was first discovered in 1866 on Kramer Hill (about 3 km southwest of the town) and minor amounts were produced through the early 1900's. The tungsten-manganese deposits about 5 km east of town were discovered at the same time; the deposits were an important source of tungsten from 1941 to 1945. A disseminated gold deposit (the Preble deposit) was discovered in 1972 in the southern Osgood Mountains, about 10 km northeast of the town of Golconda. Mineral exploration for precious metals has been conducted on Kramer Hill and south of Golconda Summit. A small amount of bulk-mineable ore may have been developed at Kramer Hill.

GEOLOGIC SETTING

The Golconda mining district is almost entirely within the Golconda 7 1/2-minute quadrangle. The geologic map of this quadrangle (Erickson and Marsh, 1974) indicates that much of the bedrock exposure in the district consist of Cambrian to Permian sedimentary and volcanic rocks. The Cambrian rocks consist of quartzite, limestone, and siltstone. Pennsylvanian and Permian rocks are limestone and conglomerate deposited within the Antler highland (see Stewart, 1980, p. 48), and siliceous and volcanic eugeosynclinal rocks of the Pumpernickel Formation. These rock units are cut by Cretaceous dikes, sills, and small intrusive masses of quartz diorite, quartz porphyry, and granodiorite. Mafic to intermediate-composition Tertiary volcanic rocks are present locally, but are usually unmineralized. Quaternary hot spring deposits (travertine) containing tungsten and manganese are present near the range front east of Golconda.

ORE DEPOSITS

The major production from the district has been 83,739 units (20 pounds each) of WO_3 from 105,591 tons of ore between 1941 and 1945 (White, 1955, p. 135). Tungsten-manganese deposits occur in ferruginous and manganiferous clay beds in Pleistocene alluvial gravels that rest on Cambrian Preble Formation. The Preble consists primarily of phyllitic

shale with lesser carbonaceous limestone. The deposits are overlian in part by travertine of hot springs origin. White (1955) believes that the travertine and tungsten-manganese deposits were deposited contemporaneously.

The tungsten-manganese deposits occur as blankets and veins adjacent to a fault trending N25°E, and the blankets dip gently to the northwest. The deposits vary from a few inches to a few feet in thickness, and in places are intermixed with the top of the travertine (tufa) cap. The veins consist of linear masses of anastamosing groups of veinlets along the northeast trend beneath the tufa caps. Both feruginous and manganiferous vein fillings contain tungsten with accompanying quartz, barite, and jarosite. Kerr (1940) reports that the ferruginous zones in part replace the manganiferous phases, and there is a higher concentration of tungsten in the ferruginous zones (Berger and Erickson, 1980).

The mineralogy of the ores in very complex. Iron occurs primarily as goethite, lepidocrocite, and amorphous limonite minerals. Manganese occurs as psilomelane, hollandite(?), and pyrolusite. Tungsten occurs in limonite as an unidentified complex. Ferritungstite and tungstite may occur, but have not been identified. Tungsten also occurs as a heterogeneous mixture in psilomelane. Neither wolframite nor scheelite have been found in the ores.

To the east of the tungsten-manganese deposits, altered limestone occurs along a northeastern trend. The limestone is locally silicified, and Kerr (1940) found a jarosite vein with quartz, barite, calcite, psilomelane, and limonite derived from the alteration of an earlier mineralized rock that probably contained pyrite and scheelite. This interpretation is consistent with the reference of Berger, Silberman, and Koski (1975) to skarn-type mineralization at depth beneath the tungsten-manganese deposits.

Precious metal mineralization is present along north-trending faults in Osgood Mountains Quartzite on Kramer Hill almost 3.5 km southwest of Golconda. The most extensive workings are on the northwest slopes of Kramer Hill. There, a N10°E, 75°NW shear zone has stopes to the surface which range in width from a few cm to 2 m. This mining area is probably the Gold Ledge Mining Co. property (Kramer Hill Mine) described by Vanderburg (1938). He reports that from 1908 to 1915, 13,705 tons of ore were mined having an assay value of $90,749. From this amount of ore, $65,632.33 worth of bullion was recovered. If the values were predominantly in gold, as reported by Vanderburg, the production would be slightly more than 3000 ounces.

The mineralized zone at the Kramer Hill Mine(?) contains light gray, chalcedonic silica, sparse pyrite, and free(?) gold. The same mineralized trend continues to the south for several hundred meters. Several small prospects on the east side of Kramer Hill which are shown on the Golconda 7.5-minute topographic map or by Erickson and Marsh (1974) were not visited during this study but are in the same wallrock, and are probably related to the more extensive mineralization at the Kramer Hill Mine. A small prospect pit in SW/4 S8, T35N, R40E explores a N10°W, 45°W shear zone which contains limonite and oxide copper minerals.

Oxide copper minerals, limonite, and gossan occur in high- and low-angle fault zones with quartz vein matter at a number of prospects located about 2.5 km southwest of Golconda Summit. The wallrocks are chert, greenstone, and phyllite of the Pennsylvanian Pumpernickel Formation (Erickson and Marsh, 1974).

The Preble disseminated gold deposit, located in the southern Osgood Mountains, was discovered shortly after ore-grade gold mineralization was drilled at the present site of the Pinson Mine in the Potosi mining district 25 km to the north. Mineralization at Preble (which is named for the Preble railroad siding 1.5 km to the southwest) is similar to that at the Pinson Mine and the Getchell Mine. The deposit occurs in the Cambrian Comus Formation, a carbonate and shale unit. The mineralized unit is reported to be in the middle portion of the formation, a carbonate debris flow (Ed Kretschmer, oral communication, 1984). The economically viable portion of the deposit is reported to be at or near the surface, in rocks which have been affected by supergene oxidation. Carbonaceous, unoxidized ore at depth is reportedly not amenable to cyanidation without pretreatment. The gold is presumably free and of sub-micron size, as it is at other northern Nevada sediment-hosted, disseminated-gold deposits. Iron-oxide minerals, silica, and reportedly, rare oxide copper minerals are present in the altered rocks. The mineralization is associated with high-angle shear zones, has a high gold-silver ratio, and occurs in carbonate rocks with silicification (jasperoid) and pyrite. Arsenic, mercury, and antimony are important trace elements, and silica, kaolinite, and calcite are important gangue minerals (Kretschmer, 1984). Mineralization at the Preble property reportedly has a tabular form striking northeasterly and dipping southeastward. This mineralization occurs in a broad northeast-trending zone of shearing, brecciation, and silicification. White calcite veins are common in limestone beds and quartz veinlets and stockworks are abundant in shale and phyllite (Crone and others, 1984, p. 165; Crone, 1982). The deposit contains approximately 1.8 million tons of material grading 0.063 oz of gold per ton (Mining Record, 29 Aug 84). Precious-metal(?) mineralization at the Maggie Neil claim 0.5 km west of the Preble is associated with a N35^{o}E, 25^{o}SE fault zone.

A small manganese prospect (Ben claim) is located in S30,T35N,R41E. It occurs in Pennsylvanian Pumpernickel Formation, as do many of the manganese properties in north central Nevada. The manganese deposits of the Havallah sequence (which includes the Pumpernickel Formation) are generally believed to have been deposited by submarine hot springs during the period of deposition of the enclosing basalts, cherts, and pellitic rocks. This property, on southern Edna Mountain, is clearly epigenetic, (veinlets and fracture fillings?) but is probably part of the epigenetic plumbing system related to clearly syngenetic manganese deposits (see Snyder, 1978, p. 743).

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