TABLE MOUNTAIN DISTRICT

LOCATION

The Table Mountain mining district is located in the northern Stillwater Range in southeastern Pershing County and adjacent northeastern Churchill County. Table Mountain is located in the central part of the district. The mines and prospects occur on both sides of the mountain range. The district has also been called the Bolivia, Boyer, or Cottonwood Canyon district for mines in the vicinity of the old mining camp of Bolivia in Cottonwood Canyon about 5 km northeast of the Boyer Ranch in northern Dixie Valley. The Table Mountain district, however, is more inclusive than these other districts. The Copper Kettle district lies in the Stillwater Range to the south of the Table Mountain district in Churchill County. It has sometimes been included in the Table Mountain district. The Mineral Basin district lies in the Buena Vista Hills to the west of the Table Mountain district. The Corral Canyon district is located to the southeast of the Table Mountain district; this district has been included within the Table Mountain district by earlier workers (Ferguson, 1939, p. 18-19; Beal, 1963, p. 8-11) but is considered separate from it by Willden and Speed (1974, p. 64).

HISTORY

Alva Boyer discovered copper ore in the district and several wagon trains of it were hauled to Sacramento in 1861. The silver-lead deposits of Cornish Camp on the west side of the mountain range were worked in the early 1870's (Lincoln, 1923, p. 11). Gilbert's Mine (probably the Linda-Jo Mine) was discovered in 1878, and antimony was shipped from the Fencemaker Mine in the 1880's. Nickel and cobalt deposits were discovered in the early 1880's. Gold was reportedly discovered in the Table Mountain district in 1922 (Lincoln, 1923, p. 11) and Johnson (1977, p. 94) reports that the Green Gold Mine was worked intermittently from the 1930's to the 1960's.

Mercury deposits in the northwest part of the district, near the border of the range, were discovered mainly in the 1940's and worked through the 1950's (Bailey and others, 1984). There has been only sporadic exploration and mining activity in the Table Mountain district during the last 25 years. Some drilling, probably for precious metals, was done recently in the vicinity of the Freckles mercury mine.

Although there has been intermittent mining activity for over 120 years in the district, production from the mines has been limited. Copper ore was produced from the Boyer copper district in the early days, and the mine was active until at least 1911. The Fencemaker antimony mine produced one ton of antimony metal, and the Lovelock Mine shipped about 500 tons of high-grade nickel-cobalt ore (Lincoln, 1923, p. 11). The Green Gold Mine is known to have produced from the 1930's to the early 1960's; in 1948-49, the mine produced 120 tons of ore milled for the free gold values (Johnson, 1977, p. 94). The Freckles Mine has produced 1236 flasks of mercury (Bailey and others, 1984). About 900 tons of fluorspar ore is estimated to have been produced from the Nevada Fluorspar Mine (Papke, 1979, p. 64). The Gilbert Mine produced $30,000 in silver-lead ore from

shallow workings after 1878 (Lincoln, 1923, p. 11). An unknown amount of ore was produced from the Cornish Camp area west of Cornish Peak, and a few thousand tons of ceramic clay has been produced from the Stoker Kaolin deposit.

GEOLOGIC SETTING

The rocks exposed in the portion of the Stillwater Range included in the Table Mountain district include a variety of Mesozoic metasedimentary and metavolcanic units. The lithologies of these rocks include limestone, shale, sandstone, and mafic metavolcanic rocks. These Mesozoic units have been intruded by Jurassic gabbro and Late Cretaceous quartz monzonite. Table Mountain, at the crest of the range, consists of a large plateau of Cenozoic basalt. The rocks are cut by numerous north- and northeast-trending high-angle normal faults (Johnson, 1977; Willden and Speed, 1974; Wallace and others, 1969).

ORE DEPOSITS

The numerous properties of the Table Mountain district have been described in a number of reports. The following section is an attempt to summarize those descriptions. Early work in the district is described by Lincoln (1923, p. 11-12), Ransome (1909) and Vanderburg. Johnson (1977) and Willden and Speed (1974) summarize the deposits in the district. Bailey and Phoenix (1944) and Bailey and others (1984) describe the mercury deposits, Lawrence (1963) describes the antimony mine, and Papke reports on the fluorspar deposits.

Mercury properties are reported from the vicinity of Red Hill and Fencemaker Canyon in the northwest part of the district and from near the eastern range front in the vicinity of Boyer Ranch. The Freckles Mine, the main mercury producer in the district, is located about 2 km north of Red Hill, on the Kitten Springs Road. At the mine, cinnabar occurs with white calcite in veinlets in irregular fault zones and as powdery material mixed with iron oxides that cement breccia. The wallrock is gray limestone and olive siltstone of the Mesozoic Auld Lang Syne Group (Bailey and others, 1984; Johnson, 1977). The main mineralized zone trends N65°W. Limestone fault breccia is locally silicified. At the Black Dyke prospect in S11,T25N,R35E, cinnabar, sulfur, and opal occur along a N50°E, 60°-70°NW fault zone. The wallrocks, Mesozoic shale and granite, are strongly acid leached. Other mercury prospects in the vicinity of Fencemaker Canyon and Red Hill also are generally in Mesozoic limestone and siltstone, and consist of silicified and bleached areas with spotty cinnabar. At Senator Fumaroles in S32?,T25N,R37E, cinnabar, sulfur, and pyrite occur in highly silicified rock. Some acid leaching has occurred, especially near active fumarole vents. There are no flowing hot springs at the surface, and the cinnabar was probably deposited from a vapor phase (Lawrence, 1971).

The Fencemaker Mine is located in S31,T26N,R37E. Stibnite, sparse cinnabar, and antimony oxide minerals occur in fractured Triassic(?) limestone along a diabase dike. The dike is 30-70 cm wide, trends N60°E and dips 35°SE (Lawrence, 1963, p. 192-193; Bailey and others, 1984).

There are two fluorspar properties in the northwestern part of the Table Mountain district, the Nevada Fluorspar Mine (S1,T25N,R35E) and the Suzie prospect (S17 and 18,T26N,R37E). Fluorite occurs in replacement bodies and veins in Mesozoic limestone, shale and conglomerate. Abundant iron oxide minerals (derived from sulfides), silicification, and argillization are associated with the fluorite mineralization.

The Stoker kaolin deposit is located in the vicinity of New York Canyon (Vanderburg, 1940, p. 48). The deposit is a large, nearly flat-lying body of kaolin formed by hydrothermal alteration of sedimentary rocks, principallly shales of probable Triassic or Jurassic age. Minor cinnabar and sulfur occur, and steam was encountered in several drill holes. The deposit occurs near a major range-front fault.

Bedded gypsum of probable Jurassic age is exposed in the first canyon north of Hughes Canyon, in S27,T25N,R35E. The property has been called the Corn Beef Gypsum. The maximum vertical exposure is about 10 m, but the gypsum bed in probably thicker than that. Scattered exposures are present for about 0.5 km along the strike of the bed.

There is little information in the literature concerning the silver-lead deposits at Cornish Camp, presumably in the vicinity of Cornish Canyon. Lincoln (1923,p. 11) reports production in the early 1870's. At one property in S22,T25N,R35E a quartz vein up to 2 m wide contains galena, some cerrussite, and oxidized pyrite. The vein is strongly brecciated, has locally abundant gossan, and has an attitude of N30°-40°W, 15°SW. The wallrock is Mesozoic limestsone and shale.

The Green Gold Mine, near the mouth of New York Canyon, is reportedly on a quartz-sphalerite-pyrite vein (Johnson, 1977, p. 94). The vein is about 30 cm wide and parallels bedding of the Mesozoic phyllite and hornfels. The vein attitude is N70°E, 30°NW. According to Steve Luddington of the U.S. Geological Survey, the vein contains sparse yellow scheelite.

Johnson (1977, p. 94) reports that the Dixie property in S33,T26N,R37E has been prospected for tungsten and silver, but has no recorded production.

Gilberts Mine on the east side of the Stillwater Range may be the Linda-Jo Mine described by Lincoln (1923, p. 11) as a silver-lead mine discovered by Charles Gilbert about 1878. The Linda Jo produced $30,000 in the late 1800's from shallow workings.

Nickel and cobalt concentrations occur in Cottonwood Canyon in a sheared contact between fine-grained gabbro and albitized Jurassic arenite. The ore minerals reported from the Lovelock and Nickel mines include arsenides and sulfarsenides of nickel (with their alteration products chloanthite and annabergite) as well as tetrahedrite, erythrite (cobalt bloom), and azurite. The deposits are sumarized in Wilden and Speed (1974, p. 84) and are also described by Ransome (1909, p. 54-58), Vanderburg (1940, p. 46), and Ferguson (1939, p. 12). Garside (1973, p. 18) reports that pitchblende is present in the ore in amounts to several tenths of a percent.

The Boyer copper deposit is reported to include several copper properties at the head of a canyon to the south of Cottonwood Canyon. This group of properties includes the Treasure Box Mine in NE/4 S7,T24N,R36E. The copper occurs as concentrations of chalcopyrite and other copper sulfides in fine fractures and as amygdule fillings in Jurassic mafic metavolcanic rocks (Carpenter, 1911, p. 804-805; Vanderburg, 1940, p.

47-48). In addition to chalcopyrite, chalcocite, bornite, tenorite, cuprite, malachite, and azurite also occur. The mineralization occurs in a bed of andesite about 30 m thick, which dips at about 20° northwest. Carpenter (1911) reports up to 0.05 oz of gold and 5 oz of silver per ton of ore.

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