

Goode

Gold Hill Mining District

The Gold Hill or Clifton mining district is located at the north end of the Deep Creek Mountains north of Overland Canyon in four mountain masses; Dutch Mountain, Gold Hill, Ochre Mountain and Montezuma Peak. The principal commodities present in this district are lead, copper, silver, gold, arsenic, tungsten, bismuth, zinc, molybdenum, and beryllium. All but the beryllium have been produced.

The recorded value of the mined minerals stands at about \$6 million. The district was discovered in 1857 in Overland Canyon with the finding of lead-silver ore, and prospecting extended northward from there. Intermittent mining continued to 1892, after which the most productive period followed. There were important bursts of mining activity during this intermittent period, especially in the early 1870s when a lead smelter operated at Clifton and Gold Hill. Serious mining commenced in 1892 from the Cane Spring and Alvarado mines. Production peaked during World War I after a rail line was completed into the area from Wendover in 1916. Tungsten mining began in 1912 from the Lucy L. mine and later from the Yellow Hammer deposit. The Gold Hill mine and its satellites operated at high production rates from 1923-25, producing \$2.5 million in arsenic. During World War II more arsenic was produced from the U. S. mine. Small production continued at Gold Hill into the 1960s and then ceased. Prospecting activity and maintenance of claims continues.

Production since 1892

Lead	10.9 million lbs produced
Copper	3.5 million lbs produced
Silver	832,000 fine ozs produced
Gold	25,865 fine ozs produced
Arsenic	more than \$2.5 million worth
Tungsten	approximately \$125,000 worth

The deposits at Gold Hill are of three types; contact metasomatic, vein, and replacement deposits. Contact metasomatic deposits containing native gold associated with sulfides of various metals occur in the contact zone between the quartz monzonite stock and Paleozoic limestones. The deposits are on the limestone side of the contact; the limestone is often recrystallized, silicated or replaced by quartz. The characteristic mineral association consists of native gold, pyrite, chalcopyrite, bornite, covellite, molybdenite and scheelite. The prominent gangue minerals are wollastonite, tremolite, garnet, tourmaline, diopside and quartz. The Alvarado and Cane Spring mine are in mineral deposits of this type.

Three vein types are found in the Gold Hill area; quartz-carbonate-adularia, quartz, and calcite filled veins. The first type of vein is confined to the quartz monzonite stock, the other two can be found in either the stock or in the surrounding rocks. The Q-C-A veins are concentrated in and around Rodenhouse Wash on the east side of Gold Hill. The strike northeasterly, dip northwesterly and have outcrop lengths to 1400 ft. The Climax mine in Rodenhouse Wash mined a Q-C-A vein mineralized with sphalerite and galena. The veins also carry low-grade beryllium associated with the adularia, which is probably contained in the feldspar structure.

Quartz veins in the quartz monzonite are generally of larger dimensions than those cutting limestones. They often carry economic quantities of

scheelite, chalcopyrite, bismuth and gold. Minerals include native bismuth, bismuthinite, pyrite and native gold. Mines in which quartz veins have been worked include the Lucy L, Wilson, and Doctor Group. To the south, just north of Overland Canyon, the quartz veins contain arsenic-silver-lead-gold at the Cyclone, Monte del Rey, Bonanza, Midnight, and Fortuna mines. The calcite veins are common, but rarely carry economic quantities of sought-for minerals.

Replacement deposits containing arsenic, copper, lead, silver and gold occur mostly in the Ochre Mountain Limestone and in the quartz monzonite. The minerals occur in unaltered limestone, the replacement controlled by fissures that are oriented parallel and perpendicular to the bedding. The hypogene minerals consist of arsenopyrite, galena, sphalerite, chalcopyrite, pyrite, pyrrhotite and tetrahedrite. There are a host of secondary minerals. Examples of mines operating in these deposits include the Gold Hill and U. S. mines. On Montezuma Peak replacement deposits occur along northeast-striking veins, in the Monocco mine, and selected beds in the Oquirrh Formation carry gold-silver-copper-lead.

Replacement deposits in the quartz monzonite mostly carry tungsten as scheelite and molybdenum as powellite and molybdenite. There are also smaller quantities of chalcopyrite, pyrite, oxide copper minerals and abundant magnetite. Gangue minerals include actinolite, perthite, garnet, apatite, black tourmaline and quartz. Mines in this type of deposit include the Reaper and Yellow Hammer.