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Item 5COMET DISTRICT

## LOCATION

The Comet district is located on the west side of the southern Highland range and is restricted to the area south of latitude  $37^{\circ} 55'$  North. The mines of the district extend along the front of the range west of Highland Peak from the Pan American mine on the south to the Log Cabin mine on the north. The Forlorn Hope mine to the north in the Highland district is sometimes included in the Comet district as its mode of occurrence is more similar to the Comet district mines than it is to mines in the Highland district.

## HISTORY

According to Lincoln, 1923, discoveries were made in the Comet district in 1882, but no production was recorded until 1895. Silver-lead ore was shipped intermittently from the district between 1895 and 1898 and between 1913 and 1920, mainly from the Schodde mine. The Comet mine was relocated in 1906 and silver, lead, zinc, gold, and tungsten were produced from this mine between 1925 and 1951. Ore from the Pan American mine was mined between 1947 and 1955. The Pan American was reactivated in 1964 and operated for several years after that date. Production of the district through 1952 is given as \$764,100 (Tschanz and Pampeyan, 1970) but this figure does not include the last production of the Pan American mine. At the time of our examination (summer 1983), a large portion of the district was controlled by Nerco Exploration Co. and mapping, sampling and other examination work was underway in several areas. No mining was in progress at any of the properties, however.

## GEOLOGIC SETTING

Rocks within the Comet district consist of a homoclinal series of Cambrian rocks that strike north and dip gently east. From west to east, the rocks include the Prospect Mountain Quartzite, the Pioche Shale, the Lyndon Limestone, and the lower part of the Highland Peak Formation. The mineral deposits occur in the lowest three formations below a major overthrust plate of Upper Cambrian rocks (Highland thrust plate) that is inferred to extend beneath alluvium all along the west flank of the Highland range (Tschanz and Pampeyan, 1970).

## ORE DEPOSITS

Two types of ore deposits occur in the Comet district, quartz vein deposits and bedded replacement deposits. The major vein occurrences were developed at the Comet mine in the central part of the district. There, four northeast-striking quartz veins can be traced on surface for about 1400 feet. These veins dip nearly vertically and are as wide as 13 feet in the quartzite but narrow to mere veinlets in the shale (Tschanz and Pampeyan, 1970). The best ore bodies occupy the wider parts of one major vein, the Comet vein. The Comet vein averages 6 feet in width and contains four ore shoots in its wider parts. All



of the major shoots dip steeply north although much of the vein dips steeply south. The vein filling consists chiefly of breccia fragments of quartzite recemented with clear and milky quartz. The primary ore contains galena, sphalerite, pyrite, wolframite, scheelite (minor), argentite, and gold (Stager, in prep.).

Bedded replacement deposits, 10 to 15 feet thick, occur in the lower part of the Combined Metals Member of the Pioche Shale at the Pan American mine and in or near the base of the Lyndon Limestone at the Schodde mine. Drill hole information (Trengrrove, 1949) indicates that the Combined Metals Member is mineralized at depth below the Schodde mine, and Tschanz and Pampeyan, 1970, infer that the CM bed could be continuously mineralized between the Pan American and Schodde mines. Vein mineralization occurs in several deposits north of the Comet as well as in the Highland district to the north. In this same area the Pioche Shale and the included Combined Metals Member can be projected along strike to the north for several miles along the front of the Highland range. This is the general area now being explored by Nerco Exploration Co.

#### GEOCHEMICAL RELATIONSHIPS

Of the eight ore samples taken in the Comet district, one was of vein ore from the Comet mine, the rest were of bedded replacement ore from each of six occurrences. The vein sample contained moderate manganese, silver, high arsenic and barium, high lead, zinc, and copper, moderately high antimony and tin. The replacement ores contained very high manganese, zinc and lead but only low to moderate arsenic, antimony, and tin and low barium. None of the samples reported tungsten or molybdenum.



SELECTED REFERENCES

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