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NBMG OFR 83-11
See also 83-12 for geochemical results.

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Item 7

GILBERT DISTRICT

The Gilbert (Desert) mining district is located in the eastern part of the arcuate Monte Cristo Range in the northern part of Esmeralda County, Nevada, in T3,4N;R38E. The district forms a north-northeast trending, elongate area approximately 7 miles long and 1.5 to 3 miles wide, which is bounded on the south by the south flank of the Monte Cristo Range, on the east by the Big Smoky Valley, on the north by the line between Townships 3 and 4 North, and on the west by the latitude 118°45', Access to the district is easiest from the east along dirt roads from U.S. Highway 95.

Little is known about the early history of the district, but it was prospected in the late 1800's and the Carrie Mine had been developed by 1880. The district's only recorded boom occurred in 1924 when the Gilbert brothers discovered high grade gold ore on the Last Hope Claims. The district was then extensively prospected but with little recorded results. The Castle Rock Mine produced one flask of mercury in 1928. Drilling in the area was reported in 1943 (Bailey, 1944). Additional drilling was done in the early 1970's, and more exploration work was done during 1981-1982. The total recorded production for the district is approximately $100,000 (Ferguson, 1927; Albers and Stewart, 1972), principally from gold. While currently non-producing, most of the main part of the district has been staked and it is being explored and evaluated by Anaconda Mining Co., a subsidiary of Atlantic Richfield Oil Company. Also, independent persons were observed exploring the district during the examination. The district is currently being mapped by J. H. Stewart of the USGS as part of the Tonopah CUS mapping project.

The Gilbert district is almost entirely underlain by Tertiary sediments and mafic and felsic lavas along with minor exposures of cherts, quartzites, slates, and limestones of the Ordovician Palmetto Formation. The sediments are intruded by Late Jurassic or Early Cretaceous alaskite, granitic, and aplitic dikes. The Miocene Esmeralda Formation outcrops throughout the district, its upper member

is a very fine-grained sandstone interbedded with limestone and its lower member is a bedded rhyolite and rhyolite breccia. There are extensive flows of the Gilbert Andesite (Pliocene?) and later Pleistocene basalt flows throughout the district (Ferguson, 1927; Albers and Stewart, 1972).

Structurally, the Monte Cristo Range, along with the Cedar Mountains form an arc which is concave northward and concentric with the Silver Peak-Palmetto-Montezuma oroflex. However, since the Monte Cristo Range is primarily made up of Tertiary extrusives, a relationship to the oroflex is questionable (Albers and Stewart, 1977). The district lies along or near the northwest trending structural disruption known as the Walker Lane (Locke, 1940).

Two periods of mineralization have been recognized in the Gilbert district (Ferguson, 1927). The earlier is a deep seated quartz vein and skarn system. The bedded sediments of the Palmetto Formation were intruded by Mesozoic granitic masses and dikes which silicified the limestone beds and developed considerable sericite and epidote in the skarn along the intrusive contact. Later ascending mineralized solutions filled the fissures and minute cracks in the skarn with sulfide-bearing, coarser crystalline quartz and disseminated the sulfides, in the adjacent jasperoid rocks. Minerals deposited in the skarns and quartz veins include pyrite, chalcopyrite, argentiferous galena, sphalerite, molybdenite, and tetrahedrite. The degree of silicification of the carbonates decreased with the distance from the intrusives. Silica later flooded the system coating the rocks with drusy quartz and cutting the jasperoids. The only representation of this system are the silver-antimony deposits found at the Carrie Mine.

A later system of shallow, very fine to massive quartz and calcite veins is found in the brecciated Tertiary lavas and Ordivician Palmetto Formation. These quartz/calcite veins are generally found near an intrusive rhyolite mass and have a tendency to follow the varying attitudes of the older sediment beds. The deposits consist of small veins of hydrothermal quartz intergrown with calcite crystals and

locally, coated with barite crystals. Crystalline quartz also cements the breccia with the fragments acting as nucleating points. The fragments in the breccias appear milled. Free gold is the principal ore mineral along with minor amounts of silver chlorides and sulfides (Ferguson, 1927).

In the southern part of the district, a small cinnabar deposit (Castle Rock Mine) occurs in the bleached and altered Gilbert Andesite along a steeply dipping, northeast trending fault breccia zone. The breccia is locally silicified and cemented with chalcedonic silica, with fine grains of cinnabar and pyrite along with cockscomb quartz coating the open spaces. Cinnabar is also reported along fractures and open spaces in the silicified andesite. Minor stibnite has been reported associated with the cinnabar (Lawrence, 1963).

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