

MINERAL BASIN

LOCATION

The Mineral Basin district is located in the Buena Vista Hills in T25 and 26N, R34E. The district is predominantly in Pershing County, but extends into Churchill County. It is accessible via a paved road from Colado.

HISTORY

Iron ore was first discovered in the area in the 1880's and 500 tons of ore were shipped to San Francisco (Johnson, 1977). No further production occurred until 1942-43 when several mines commenced production including the American Ore Co., Thomas, Segerstrom-Heizer and the Buena Vista. Various mines in the district produced ore in the 1950's and 1960's and extensive exploration in the district developed large reserves of low-grade ore. The discovery of large, high-grade iron ore deposits in Brazil and Australia in the 1960's essentially removed the main export markets for Nevada iron ore and production from the district nearly ceased by 1970. A few carloads of high-grade ore have been produced from the district in recent years, but the district was idle in 1985. Total production from the district is over 4 million tons of high-grade iron ore. Extensive reserves of low-grade ore are present in the district.

GEOLOGIC SETTING

The Buena Vista Hills are underlain by a lopolithic complex of gabbroic intrusive rocks and mafic extrusive rocks of Middle Jurassic age. The gabbro and cogenetic mafic volcanic rocks are overlain unconformably by Tertiary silicic and basaltic volcanic rocks and by extensive areas of Quaternary sediments.

ORE DEPOSITS

The iron ore deposits in the Buena Vista Hills occur as vein and replacement deposits in scapolitized gabbro and mafic metavolcanic rocks. The iron ore mineralization is apparently related to a late stage, deuteric alteration of the mafic complex. The deposits were localized by major faults and fault intersections and minable ore bodies are frequently bounded by faults.

The main ore mineral is magnetite, associated with it are pyrite and very minor chalcopyrite. The gabbro and mafic volcanic rocks are highly scapolitized and are altered to chlorite, scapolite and amphibole in and adjacent to iron mineralization. Apatite, sphene and calcite occur in some of the ore. Much of the ore is oxidized to martite.

GEOCHEMISTRY

In addition to iron the ores are anomalous in vanadium, phosphorous and locally, in copper and titanium.

SELECTED REFERENCE

Johnson, M. G. (1977) Geology and mineral deposits of Pershing County, Nevada: Nevada Bureau of Mines and Geology Bulletin 89, 115 p.