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(3)

Item 28

Chalk Mountain District

LOCATION

The Chalk Mountain district encompasses Chalk Mountain, which is just north of U.S. Highway 50, about 45 miles east of Fallon. The mountain, named for its conspicious light color, is about 3 miles long by 2 miles wide and rises some 1,000 feet above the surrounding terrain. Chalk Mountain is on the east side of Dixie Valley, about midway between the old mining camps of Fairview and Wonder. Access is from the south via Highway 50 or from the west off the Dixie Valley road.

Although all of Chalk Mountain is east of the eastern boundary of the proposed withdrawal, we examined several mines and prospects in the district and collected ore samples from them (see fig. 24). Mineralized outcrop on the west side of Chalk Mountain are within one half mile of the withdrawal boundary and mineralized structures could project west into the area.

HISTORY

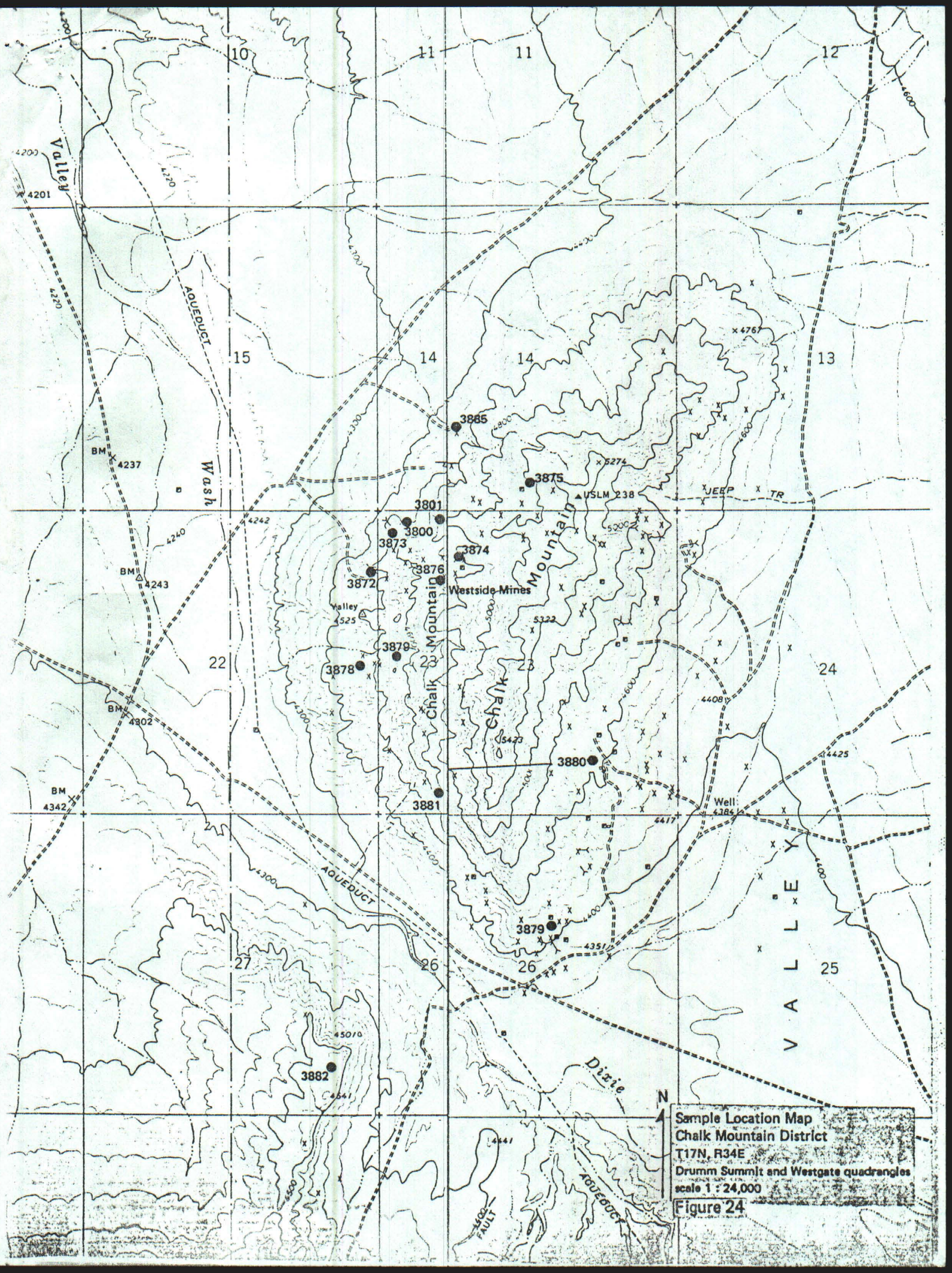
Miners from the early days of the Comstock were aware of the lead-silver mineralization of Chalk Mountain, but it was thought to be of insufficient grade to be shipped (Schrader, 1947). Prior to 1921, production was sporadic with occasional carload shipments running 60 percent lead and 60 ounces of silver. Major activity began in 1922 with the formation of the Chalk Mountain Lead-Silver Mining Co., located about mid-way down the eastside of the mountain. Development work and production increased as better, deeper deposits were discovered.

Schrader (1947, p. 116) reported that: "By 1925 a 5-foot ore body had been developed for 375 feet on the 110-foot level. A new shaft, to the south, showed the ore body to be 10 feet wide on the 160 level, from which the company was shipping 12 tons daily of $100 ore. In July, 1926, a large, rich ore body was opened at the 335-foot level...It was reported to be 12 feet wide and the ore continued down to the 500-foot level, where the main vein contained 6 feet of rich ore. By 1927, the company had shipped 51 cars of ore".

The most productive years were from 1923 to 1929, but the exact dollar amount is unknown because part of the production was credited to the Fairview mining district. The mine continued to operate sporadically until the 1950's. The workings consist of a 40-foot shaft, two 110-foot shafts, and one double-compartment vertical shaft 517 feet deep, with lateral work on 6 levels. The total workings comprise about 5,000 feet (Vanderburg, 1940, p. 18).

At least five other mining operations, mostly on the west side of the mountain, were active during the same 1920's period. The most notable of these was the Nevada Chalk Mountain Mining Co. which produced small quantities of ore for several years.

from NBMG OFR 87-2



Sample Location Map
Chalk Mountain District
T17N, R34E
Drumm Summit and Westgate quadrangles
scale 1 : 24,000

Figure 24

GEOLOGIC SETTING

Chalk Mountain consists of four major rock types; highly folded limestone and dolomites of possible Triassic age, volcanic sedimentary rocks of Triassic or Jurassic age and massive quartz porphyry that intrudes the carbonates and is itself intruded by younger granodiorite (Willden and Speed, 1974).

Thorstenson (1968, p. 2) reported that: "The northern half of Chalk Mountain consists of a quartz porphyry intrusion that is itself intruded by several smaller bodies of granodiorite. The quartz porphyry is bounded to the south by an irregular, approximately east-west striking contact with carbonate rocks that comprise most of th esouthern half of Chalk Mountain.

A large body of granodiortie, intruding the carbonates, occurs along the southwestern flank of the mountain. Several smaller intrusions of both granodiortie and quartz porphyry are present in the northern portion of the carbonates. The southwestern edge of Chalk Mountain is composed of volcanic rocks, which are thrust over the carbonates".

ORE DEPOSITS

The mineralization at the Chalk Mountain Lead-Silver Mine follows a northeast trending structure in the limestone along the east side of the mountain for approximately 1-1/2 miles. The deposits occur as veins and irregular replacement bodies in fractures and preferred bedding in the limestone. The deposits are highly oxidized and sufficiently rich in iron to make them desirable for smelting (Vanderburg, 1940). The ore is porous and covered with iron oxides, mostly reddish hematite, some calcite, occasional yellow wulfenite and yellow oxides of lead. The dumps have almost no visible sulfides although Schrader (1947, p. 17) reported that presence of argentiferous galena along with anglesite, cerusite, cerargyrite, plumbojarosite, wulfenite and vanadinite in the mineral assemblage. Garside (1973, p. 18) reported the presence of anomalous radioactivity on the 335-level, associated with a gouge zone in dolomitized limestone. The lead-silver orebodies were reported to be enriched by leaching and secondary enrichment above the water table.

The rocks surrounding the West Side Mines are dominately limestones and dolomites of Triassic age. The shallow and often caved workings follow irregular gossan-like, narrow fissures or contact zones in limestone. The veins are commonly porous and highly oxidized with little visible mineralization.

GEOCHEMICAL RELATIONSHIPS

Ore samples from the Chalk Mountain Lead-Silver Mine dumps contained fair gold and low silver values associated with very high lead, zinc and arsenic; moderate to high cadmium, tin, molybdenum, antimony and copper, and moderate to low bismuth.

Samples from West Side Mine workings had low gold values for five out of eight samples and sporadic values for silver, ranging from 2 ppm to 1,500 ppm. The samples reported very high values for lead and zinc with lessor values for arsenic, and sporadic but high values for tin, cadmium, antimony and bismuth.

Unlike the east side mines, the western properties had fair but consistent tungsten values.

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