3090 0006

Nye Co. - general

Item 148

MINE MOUNTAIN AREA

The Mine Mountain area is located approximately 7 miles west of Yucca Flat on the Nevada Test Site. The area straddles Mine Mountain from east to west at an average elevation near 5300 feet. Old claim notices found by earlier workers indicate exploration in the district began around 1928 (Cornwall, 1972).

On its crest, Mine Mountain consists of the Devonian Devils Gate and Nevada Formations which have been thrust over argillites and quartizites of the Mississippian Eleana Formation. At this location, the upper-plate rocks are highly fractured and faulted, and are limestones and dolomites with minor sandstone (Orkild, 1968).

The mine workings on Mine Mountain consist of four shallow shafts, four adits, and several groups of prospect-pits and trenches. The remains of two mercury retorts are also located on the eastern slopes of the mountain. One of these retorts is a make-shift arrangement below one of the eastern adits, the second is a masonry and pipe job, close to the main road into the district on the east side of mountain. The presence of retorts suggest an attempt was made to mine and process mercury ore at some earlier time. There is however no record of mercury production from the district.

Nearly all of the mining activity in this area has been restricted to vein systems along high angle faults in the upper-plate rocks. The veins are commonly composed of brecciated quartzite, silicified dolomite, quartz, barite and sulfides. A group of aligned prospects on the eastern side of the mountain follows a N10°W, 65°N, shear. Exposed within these prospects is a 5 foot vein of white barite, some quartz cemented breccia, and minor sulfides. the vein is exposed along its strike for over 300 hundred feet. Four samples from within the system were very high in barite, two contained close to a half ounce of silver and one was high in lead and zinc.

All four shafts and the associated vein are aligned along the crest of the mountain in an approximate N50°E direction. The shafts are open holes without timbers so sampling was limited to the adjoining dumps. Dump materials consisted of silicified breccia, crystalline barite, quartz with fine-grained crystals of unidentified dark metallic minerals, and traces of cinnabar. The vein material from the westernmost shaft was a gossan-like iron stained breccia.

Two northeast trending adits and several adjacent prospects are on the western side of Mine Mountain. The upper adit follows a N45°E, 35°NW shear zone in a section dominated by silicified dolomite with minor quartzite. The two prospect pits located above the upper adit expose a 3 foot wide vein in the shear zone. The lower 135 foot adit explores the same shear lower in the structure, that bears N40°E and dips at a steep NE inclination. The wall rock along the structure is mostly quartzite. About 30



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feet from the portal, some low angle faulting that may be the Mine Mountain thrust follows the ceiling of the adit. The central adit is along a N30°E 60°SE shear zone with several crosscuts that explores a vein parallel to the main breccia zone. The eastern adit is on a N20°W steeply dipping shear in silty dolomite. The structure crosscuts another fault at a N60°E direction. In general, the aditis have followed vein within shears and have little or no lateral exploration.

Samples were collected from adits, dumps, and adjoining prospects in this district. The materials sampled were limestone, dolomite and quartz breccias with barite, quartz vein material with fine-grained crystalline barite and minor quartz.

Assays showed barium to be anomalous throughout the district. A combination of sulfides of lead, antimony, zinc, mercury, arsenic and silver accounted for most of the dark-gray metallics seen throughout the vein systems. Mercury was not analysed directly but was identified in samples examined on the microprobe. Lead, antimony, and arsenic were close to or above dection limits on the spectrograph for seven samples. Twelve samples were analyzed by fire assay or atomic absorption. Although present in trace amounts in some samples, gold did not exceed .03 ounces per ton for any of these twelve samples. Three of the silver assays exceeded a half ounce per ton, one was greater than 4 ounces, and two samples from the south central adits assayed 16.89 and 20.37 ounces of silver per ton. Lead, mercury, antimony and silver dominated the mineral assemblage in the two selected samples examined on the microprobe.

Cornwall (1972) reported that Harley Barnes and others of the USGS had examined the workings in 1963 and had collected a number of samples. Only one sample, a brecciated quartzite, contained significant amounts of ore minerals. It assayed 10 percent significant amounts of ore minerals. It assayed 10 percent lead, .05 percent mercury, and 0.07 percent silver.

## Summary

Although gold was not anomalous in the limited sample set, a general model for a disseminated gold deposit clearly fits the lithologies, structures and geochemistry of Mine Mountain. Expanding the size of the study area in the same environment is strongly indicated.

## Selected References

Cornwall, H.R. (1972) Geology and Mineral Deposits of Southern Nye County, Nevada: NBMG Bull. 77.

Orkild, P.P. (1968) Geologic Map of the Mine Mountain Quadrangle, Nye County, Nevada: USGS Map GQ-746, scale 7 1/2".

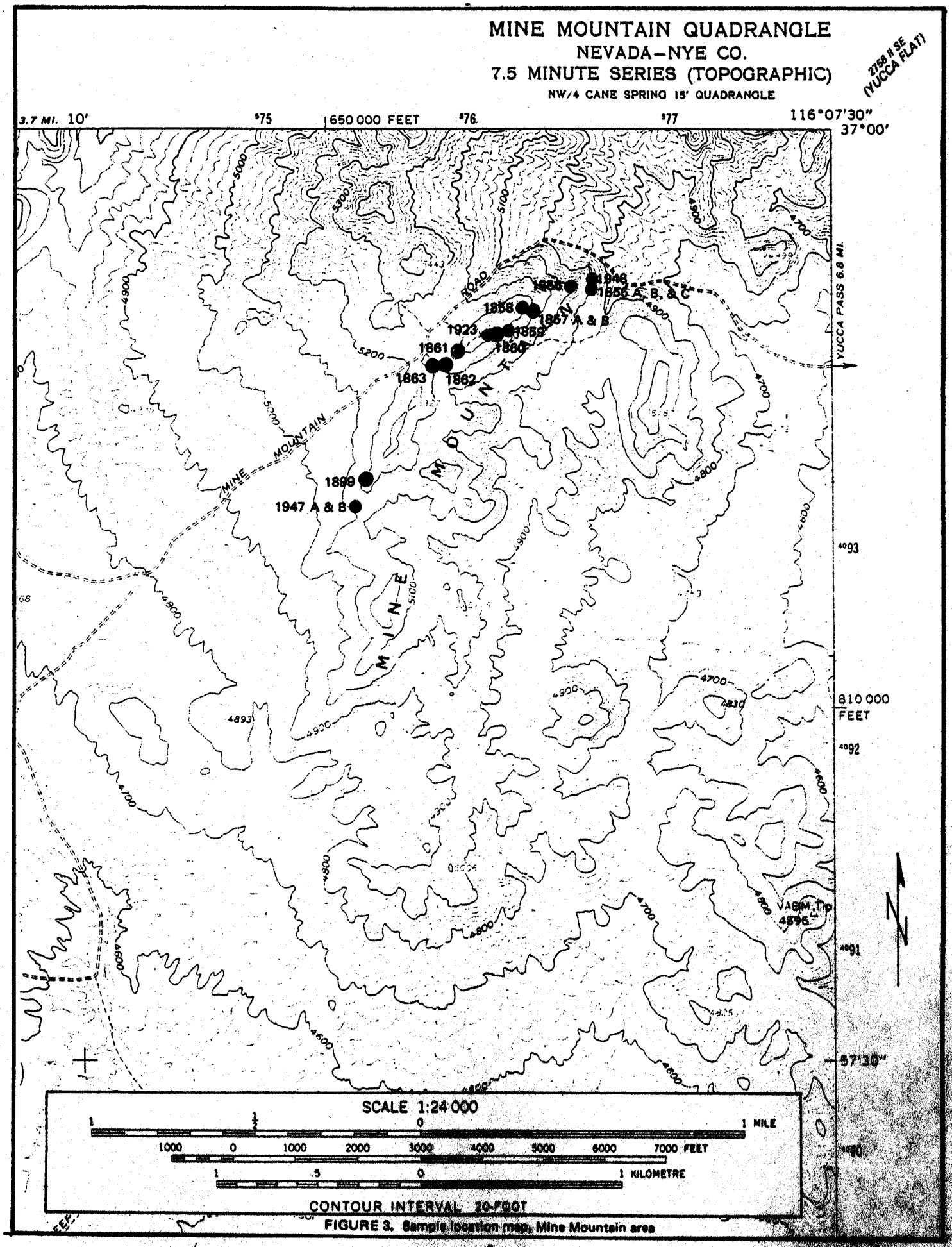


FIGURE 3. Sample location map, Mine Mountain area