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Item 18

RAND MINE

Location and Access. The Rand (Nevada Rand) mine is in the Rand mining district near the north end of the Gabbs Valley Range, on the west slope of the Range in Sec. 29 (?) or 30 (?), T. 11 N., R. 32 E. (see Army Map Service, Walker Lake Topographic quadrangle map), 17 road-miles east of Nolan which is on a branch line of the Southern Pacific Railway.

History and Production. The Rand mine was discovered in 1908. Most of the production was from 1919 to 1925. Estimates of total production vary greatly, but certainly have not been more than several hundred thousand dollars. The values were gold and silver.

Developments. The mine has about 5,000 feet of workings on 6 levels, extending to a depth of 450 feet and laterally along the vein for about 400 feet.

Previous Work. Schrader (____) has described the geology of the mine.

The Rocks. The country rock at the mine is gray, tuffaceous, hornblende andesite, containing fragments of rhyolite and Jura-Triassic (?) slate. The andesite approaches a latite in composition, consisting of oligoclase, lesser andesine, hornblende, biotite, minor apatite, magnetite, quartz, and zircon, and locally a little orthoclase. Small phenocrysts of feldspar and some hornblende and biotite make up 40 to 60 percent of the rock.

Structures. A faulted and brecciated zone, striking northwest and dipping vertically, cuts the andesite at the mine. The zone is 20 to 200 feet wide and ~~over 3,000 feet~~ about 5 miles long. It is the same zone as that exposed in the Bovard mine to the southeast.

Veins. Gold-silver veins occur, as flattish lens-like masses, up to 10 feet in width and 100 feet in extent, in the numerous, small, irregular faults and fractures making up the faulted and brecciated zone. In general, the veins parallel the trend of the zone, but are irregularly distributed within the zone. The walls of the veins, the ore shoots, and the zone itself are irregular. Gouge is common, especially along the walls. Oxidation extends

below the deepest workings in the mine. The veins consist of silicified rock fragments and quartz containing hematite, free gold, electrum, cerargyrite, argentite, and a little tetrahedrite, calaverite (?), manganese oxide, pyrite, chalcopyrite, malachite, chrysocolla, tenorite, argentiferous cerussite, pyrargyrite, and polybasite. Selenium is present.

Wallrock Alteration. The andesite in the faulted and sheeted zone is silicified, propylitized, and alunitized. This alteration is commonly more intense and abundant near veins and orebodies. Finely disseminated pyrite and chlorite, epidote, calcite, quartz, chalcedony, and alunite were formed. The minerals, and thus the types of alteration, are distributed erratically.

Molybdenite Minerals. Wulfenite occurs in the veins as disseminated, white or yellowish, platy crystals. The high lead content of the ore apparently is mainly due to the presence of the wulfenite.

Kelley (?) prospect along road in Nugent Wash, about 4 mi S. of Reno, E. of road
contact metasomatic zone (skarn) along
Mo-trending quartz monzonite - limestone contact — extends for ± 1½ mi.
semi massive
chrysocolla, malachite, chlorite along fractures in gb ones & Li.
ore small dump south of main shaft contained vein of gb, molybdenite (flake mainly along margins), pyrite, and minor chalcopyrite

GRAB SAMPLE - 0.23% Mo.

DO DETAILED STUDY

(1968)
from John Schilling's Notes