

North and South America vein

The North and South America vein dips 45° south in light-reddish brown diorite porphyry. It is opened mainly by a 38-foot upper tunnel in which a width of 14 feet of the vein is said to average \$3.50 in gold to the ton. Near the surface an 18-inch ore shoot is said to run about \$40 to the ton. The face of the lower 200-foot tunnel is still 60 feet from the vein.

Sunnyside camp

13 N 33 E

At Sunnyside the most of the deposits occur just northeast of the camp in an area about three-fourths mile square and are covered by four small claim groups, the North Star, South Star, Great Eastern, and Borden groups, aggregating about 20 claims lying in compact form and mostly owned by Tom Kenyon and associates. They occur mainly in small quartz in the diorite porphyry associated with its contact with the intrusive granite. They are exposed and opened mainly by adit tunnels in the northwest and northerly slope of the ridge about half a mile northeast of Sunnyside camp, mostly between the elevations of 5,200 and 5,500 feet (fig. 88). The ore minerals are mainly free gold, horn silver, argentite, chrysocolla, and malachite in a quartz gangue, some of which is glassy and some has been closely sheeted or cleaved paralld with the vein and recemented with dark seams of carbonate of lime and iron, figure 90.

Rich ore vein

The Rich ore vein strikes north 75° west almost through the middle of the claim groups and is opened mainly on the South Star and Borden groups. It is said to have a known length of 3,000 feet. It dips about 50° south southwest approximately conformably with the granite-diorite contact which it seems to follow. It is opened mainly by several tunnels and stopes. In the lower tunnel in drift No. 1, which is 180 feet long and located a little below the 5,200-foot contour the vein is about a foot wide and consists mainly of platy or laminated quartz, some of which is drusy. From this elevation the vein and workings extend on up to slope to above the 5,500-foot contour. At about the 5,350 contour, tunnel No. 2 extends in 280 feet on the vein which here ranges up to 1½ feet in width and has had considerable stoping done on it and has been an important source of the camp's production. A fault crossing the tunnel portal dips west, and the associated structure shows that both the vein and the country rock diorite have been faulted and folded. The diorite is locally greenish with chlorite and epidote which latter mineral is frequently concentrated in yellowish green seams and stringers. A 20-foot prospect tunnel near the 5,400-foot contour shows the vein to contain good ore and its dip here to be about 55°.

Great Eastern mine

13 N 33 E

The Great Eastern mine adjoins the South Star group and Rich ore vein just described on the north. It is on the Great Eastern vein, which strikes N. 70° E. and dips 60° S. The vein is opened mainly on the Great Eastern claim and the western extension claim which adjoins it. It is from one-half

to 2 feet wide and averages about a foot in width and looks well. It is mostly gold-silver ore having a rusty dark brown or black iron or manganese-stained oxidized quartz gangue. It shows more or less depositional banding and later compression that caused it to become sheeted and cleaved parallel to its course, and later it was recemented with dark carbonate of lime and iron and manganese oxides. In places it contains also galena but this mineral is not known to be present in commercial quantities. It is locally drusy and honeycombed by casts of pyrite dissolved out. A polished section of a specimen of the banded ore shows it to contain a few small grains of hematite, which may be hypogene, as no pyrite was observed. The ores are said to run about \$20 to the ton. In place a little ore occurs also as replacement deposits in the adjoining wall rock diorite which here is hydrothermally bleached to a lightish color but weathers dark and becomes coated greenish with epidote. On the Great Eastern ground where it is opened by several tunnels and a 30-foot winze it carried good ore continuously for the extent of 300 feet. Here at time of visit about 10 tons of ore lay on the dump and some sulphide ore was exposed in the vein in the bottom of the winze.

Similarly on the western extension ground, about 1,500 feet to the west, the vein is opened by a tunnel whose stope or ore shoot is said to be 200 feet long and to have made a considerable production. In the gulch on the opposite or southeast side of the ridge bouldery float quartz containing or being stained with much malachite seems to have come from this vein.

South Star No. 5 prospect

At about 800 feet south-southeast from the Great Eastern mine in the upper part of Kenyon Canyon at an elevation of about 5,330 feet the South Star No. 5 prospect was opened by a 50-foot shaft and drifts from which ore was being mined and 7 tons had recently been shipped at time of visit in 1913. The ore shipped averaged about \$40 to the ton and contained \$36.16 in gold and 14 ounces of silver to the ton. The ore contains also considerable copper in the form of chrysocolla. In the bottom of the shaft the ores seem to be low grade with a glassy quartz gangue.

A short distance upstream from the South Star No. 5 prospect in Kenyon Canyon a 3-inch wide granite dike cuts the diorite porphyry and, as associated with the contact, occur seams up to 2 inches wide of silicate rock composed mainly of garnet and epidote.

The Gold Reef mine

The Gold Reef or Borden mine is about one-half mile east of Sunnyside camp on the east side of Kenyon Canyon at an elevation of about 5,250 feet and 60 feet above the floor of the canyon or wash. It is on a 17-foot wide sill of the diorite porphyry enclosed in the granite and locally known as the "Gold Reef dike." The deposit was discovered in January 1913, after many trials by Jim Borden, the owner, who two years earlier had found very rich gold-quartz float in the wash some distance farther down stream. In 1913 the owner was reported to have given a \$15,000 option on the property, and in 1920 it was reported that work had recently been done on the property by George Troast.