

Formation is chiefly granite, and the ore occurs in narrow quartz veins with variable strike and dip. In places the ore contains a considerable amount of arsenic. Values are chiefly in gold and silver.

Marietta Group

The Marietta group of four unpatented claims on the northeast slope of the Eugene Mountains 12 miles south of Pronto is owned by C. F. Keil of Winnemucca, Nev. At the time of the writer's visit the property was under lease and bond to Frank L. McHenery and partner, who were prospecting by hand methods. This is one of the old properties in the district and it produced some shipping ore in the early days.

Development consists of eight short adits, the longest of which is 250 feet, and an inclined shaft 250 feet deep, totaling about 1,000 feet. The ore occurs in narrow quartz veins in rhyolite and shale. Values are in gold and silver.

COLUMBIA DISTRICT

The Columbia district is in the south end of the Pine Forest Range near the northwest end of the Black Rock Desert about 100 miles by road northwest of Winnemucca, the nearest supply center and shipping point. The district was discovered in 1870 by a man named Verry; it was organized as the Columbia district in 1875. The first ores were worked in an arrastra, and in the late seventies two stamp mills were erected to treat ores from the Badger and Independence mines. Each of the mills was equipped with five stamps and an amalgamation pan. One mill was operated by steam and the other one by water power obtained from Bartlett Creek. Only a small tonnage of ore was treated in these mills. Soon after the district was organized, it declined rapidly and never obtained any prominence.

In Baxter Canyon, in the western part of the district, gold was discovered by Clyde Garrett in 1914. Little production was made until 1936, when the claims were acquired by the Columbia Mines Co., Inc. Up to June 1937 this company produced several hundred tons of shipping ore per month.

Columbia Mines Co., Inc.

The Columbia Mines Co., Inc., comprises the Black Rock group of six unpatented claims. E. F. Nieman, of Salt Lake City, Utah, is president and general manager. An average crew of 12 men is employed.

Development work consists of a vertical shaft 100 feet deep, an adit 200 feet long, and other workings totaling about 1,000 feet. Mine equipment consists of a 25-horsepower gasoline hoist, a Gardner-Denver portable compressor, an assay office, and camp accommodations for about 14 men. Water for domestic use is obtained from a well sunk to 90 feet in the canyon near the camp. Because of the base character of the ore, no attempt has ever

been made to mill the ore locally. The cost of trucking the ore to Winnemucca is \$5 per ton when a load of 6 tons is carried per trip. The ore is selectively mined by the open-stope method. Mining cost is \$5 per ton. Up to June 1937 production from the property had been 2,000 tons of ore.

The ore occurs in a fissure vein striking east and west and dipping north about 70°. The width of the vein varies from 1 to 5 feet. The formation is diorite and slate. The vein material is chiefly altered and brecciated diorite containing gold as the principal metal, associated with arsenical oxide and sulphide, in places up to 20 percent, and a small amount of copper. The amount of copper increases with the depth. The average grade of the ore mined is 1 ounce gold and 3 ounces silver.

Moose Group

The Moose group of four patented claims owned by J. W. Bartlett and associates is in the Pine Forest range about 3 miles a little east of north of the Bartlett ranch in Baxter Canyon. This property was prospected in the early days for copper, but no production was made. The present owners acquired the claims at a tax sale in 1936.

Development consists of an adit several hundred feet long, partly caved, and an inclined shaft about 65 feet deep. There is no equipment on the property, and at the time of the writer's visit it was idle.

Oxidized copper minerals associated with silver and gold occur in a quartz vein striking northwest and southeast and dipping about 45° to the northeast in an andesite formation. The vein is traceable on the surface for a considerable distance, and its width varies from 6 to 12 feet.

DONNELLY DISTRICT

The Donnelly district is in southwest Humboldt County on the west slope of Donnelly Peak in the Black Rock Range, 47 miles by road a little east of north from Gerlach, Nev., a station on the Western Pacific Railroad and the nearest shipping point. The best road to the mine is via Leadville, Nev. This road turns off the Gerlach-Cedarville road a little north of the Swingle ranch; the distance from Gerlach is 55 miles. The claims in this area are at an altitude of 6,800 to 7,300 feet.

Gold was discovered in 1907 by a cowboy who located several claims, which were sold to James Raser, formerly of Gerlach. Raser shipped a little high-grade ore and in 1911 erected a 5-stamp amalgamation mill, which operated for several years. The Reeder mine south of the Raser property was worked in former years on a small scale by Lem and Joseph Reeder, who produced a small amount of gold bullion in an arrastra. The total production from the area is said to have been about \$90,000, most of which was made by James Raser.

When the writer visited the district in June 1937 there was no activity.