

BULLFROG-GEORGE PROSPECT

Location. The Bullfrog-George prospect is on the north flank of the Slate Ridge^{on a} domical hill near the Lida-Gold Mountain road, in T. 7 S., R. 41 E. (see Army Map Service, Goldfield topographic quadrangle map) in southeastern Esmeralda County.

Developments. The prospect is developed by several small pits and cuts.

Previous Work. Ball (1907, p. 192, 193, 195) briefly described the geology of this deposit.

The Rocks. A large stock of granite is exposed in the western part of Slate Ridge, smaller masses and dikes of the same rock being exposed elsewhere in the Ridge. The granite intrudes Cambrian shale, limestone, and quartzite. The sedimentary rocks are intensely metamorphosed near the granite but only slightly meta^lmorphosed elsewhere. Aplite, pegmatite, quartz monzonite porphyry, and diorite porphyry dikes intrude the granite; rhyolite flows locally cap the other rocks.

The granite is coarse-grained, and consists of orthoclase, quartz, biotite, and accessory zircon and magnetite.

Structures. The sedimentary rocks are gently folded along northeast-trending axes ^{near the stock} away from the granite, but ^{near the stock} dip steeply away from the granite stock with buckling and isoclinal folding being common. Normal faults cut the granite.

Veins. At the prospect, a 4- to 9-foot wide quartz vein, striking N. 70° W. and dipping vertically, cuts the granite and can be traced for about a quarter of a mile. Other quartz veins, which weather in relief and are traceable for long distances, are exposed in the surrounding hills; some of these veins contain feldspar and others grade into pegmatite dikes. The vein walls are gradational with the granite. Locally, the granite along the veins has been crushed and the fragments cemented by quartz. Elsewhere the vein quartz is crushed and recemented by "limonite" and chalcedony. The feldspar in the granite along the veins has been kaolinized.

Small pods and grains of pyrite and chalcopyrite, with less galena and chalcocite (?), are scattered through the veins. Vugs lined with quartz are common. In the oxidized portions of the veins, "limonite", malachite, cerussite, and azurite fill cracks and cavities. Free gold is present and the main source of values. In the main vein, purple fluorite occurs in crevices in the quartz and as cubes up to 1/4-inch across lining vugs.

Molybdenite Minerals. Molybdenite occurs sporadically ²⁵in small tablets and irregular masses in and between the quartz "individuals" of the main vein at the prospect. Bright-yellow needles and tuffed aggregates of molybdenite are present where the molybdenite is oxidized.

John Schilling's notes
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