

Abstract

The Ginger Ridge stock is a discordant body of granodiorite intrusive into a sequence of predominantly massive volcanoclastic rocks. In outcrop it occupies approximately two square miles and is roughly bulb-shaped, the long axis of which trends northnorthwest - southsoutheast. The stock is essentially a structureless body without mineral lineation or planar foliation.

Prior to the intrusion of the granodiorite, which probably accompanied the Laramide orogenic movements at the end of the Cretaceous period, the volcanoclastics were intruded by basaltic and andesitic rocks.

Contact metamorphism accompanied the intrusion of the granodiorite and a narrow, but well defined contact zone ranging in width from 50 - 200 feet, and composed of rocks belonging to the pyroxene-, and hornblende-hornfels facies, flanks the eastern part of the stock. Adjacent to this contact zone, the granodiorite has thermally metamorphosed volcanoclastics rocks into rocks resembling andesitic, and basaltic lavas. Locally, these rocks contain albitic plagioclase and actinolite in association with calcic-plagioclase.

Hydrothermal fluids circulating along two roughly parallel shear zones southwest of the stock pyritized, silicified and sericitized, the pre-existing rock. Finely disseminated chalcopyrite is associated with pyrite in both zones.

The larger zone is a linear belt adjacent to the southwestern side of the granodiorite stock. It is approximately 600 feet wide and more than two miles long. In the vicinity of Connors the basaltic rocks adjacent to

this zone are heavily veined by epidote. At the southern end of the stock the contact zone is truncated by the altered zone. Relict porphyritic and granitic textures indicate that both basaltic and granodioritic rocks have been altered.

The smaller zone is located within volcanoclastic rocks approximately 3000 feet southwest of the stock. Adjacent to this zone is an area of diverse intrusive igneous rocks, the relationships of which have not yet been determined.

Both zones have features in common with porphyry copper deposits such as those in the southwestern United States.