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GEOLOGY AND GEOCHEMISTRY
OF
CALICO PEAK
DOLORES COUNTY, COLORADO

By

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ABSTRACT

Calico Peak, located three miles west of the town of Rico in Dolores County, southwestern Colorado, is a Tertiary volcanic plug 2,000 feet in diameter, which intruded Permian sandstones and conglomerates and Tertiary sills and dikes of hornblende latite porphyry. The plug was emplaced by two separate magmatic pulses, yielding a quartz latite rock which grades from a facies rich in feldspar phenocrysts to a facies rich in quartz phenocrysts.

Emplacement of the plug was followed by the invasion, along volcanic fissures and vents, of solfataric solutions and gases, which strongly affected the composition and texture of the original rock. The main alteration product is alunite, $[K\ Al_3(SO_4)_2(OH)_6]$. Where alteration is most complete, the original rock is replaced by a mosaic of quartz, alunite, and native sulfur. These highly altered zones are surrounded by an argillic envelope in which feldspars have been largely altered to clay minerals.

The overall effect of the solfataric alteration has been to reduce the amount of calcium and magnesium present in the plug but to enrich the plug in potassium and sodium. Significant anomalous concentrations of molybdenum and lead occur in the center of the plug. It is estimated that the Calico Peak plug contains 100 million tons of rock averaging 19.9% alunite.

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