

54. Were there ever volcanoes in Oklahoma?

Yes, though millions of years ago. And some volcanic formations in Oklahoma were erupted from outside the State.

The oldest volcanic formations in Oklahoma are the Colbert Rhyolite in the Arbuckle Mountains and the Carlton Rhyolite in the Wichita Mountains. Both are Cambrian in age (about 525 million years old). The rhyolite volcanoes are associated with a large rift zone that formed when southern Oklahoma tried to pull south away from the rest of Oklahoma. Fortunately, it failed.

The next oldest volcanic rocks in the State are several tuffs in the lower part of the Stanley Formation (Mississippian, probably about 360 million years old). The best-studied of these are named the Hatton, Beavers Bend, and Mud Creek tuffs. All are exposed in the Ouachita Mountains in southeastern Oklahoma; the best-known exposure is the Beavers Bend tuff on Rattlesnake Bluff, east of the Mountain Fork River in Beavers Bend State Park. The source of the tuffs was a volcanic vent located to the south, perhaps in Texas, and now buried by younger rocks.

Oklahoma's youngest volcanic formation is the basalt lava flow that caps Black Mesa in extreme northwestern Cimarron County (Fig. 19). The flow, less than 5 million years old, was erupted from still-recognizable vents in southeastern Colorado. The basalt on Black Mesa is part of a large volcanic field that includes Capulin volcano in northeastern New Mexico, a popular tourist attraction and national monument.

Thin layers of volcanic ash are present in some river and lake deposits in Oklahoma. These ashes were erupted from Quaternary volcanoes throughout the western U.S., including the Jemez caldera in New Mexico, Long Valley caldera in California, and Yellowstone caldera in Wyoming.



Figure 19 (question 54). Black Mesa, Cimarron County, Oklahoma. Black Mesa is capped by a basalt lava flow that originated from vents about 40 miles to the west-northwest in Las Animas County, Colorado.

55. Is there gold in Oklahoma?

Very little. Trace amounts of gold have been reported in the Wichita, Arbuckle, and Ouachita Mountains.

Oklahoma has no commercial gold deposits. Although trace amounts of gold have been reported in the Wichita, Arbuckle, and Ouachita Mountains, Fay (1976) concluded that the only authentic report of gold in Oklahoma was in a 1904 report by Edwin DeBarr. DeBarr assayed a number of samples from the Wichita Mountains and found one that contained gold. "No. 136 was obtained from washing placer material south of Brushy and Bald Mountains and Gold Hill, in the creeks and in Deep Red in which material there is a very small quantity of exceedingly fine gold in a limited area. The lack of water and the black iron in which it is found, together with the limited amount of gold therein, renders it unprofitable for working." Fay (1976) concluded that the sample was collected southeast of Snyder, in Kiowa County.

Perhaps the best description of "gold fever" in Oklahoma was written a century ago by Charles N. Gould, then director of the Oklahoma Geological Survey:

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