

"At the time of the opening of the Kiowa and Comanche country to settlement in 1901, there was much activity in the Wichita Mountains. It has been estimated that at one time there were more than 2,000 miners at work in the region. The mountains were once bristling with claim notices, and honeycombed with mining shafts. Scores of camps were scattered throughout the mountains. According to various estimates all the way from half a million to a million and a quarter dollars have been spent in sinking shafts in the Wichita Mountains [Fig. 20]. Some of the shafts reached a depth of 200 to 250 feet, although most of them were less than 25 feet deep. Several small smelters were erected, and a number of car loads of ore was shipped to large smelters at Pueblo and Denver. Hundreds of assays have been published, many of them claiming values running sometimes as high as several hundreds, or even thousands, of dollars per ton. Several reports have been published by government and other officials on the occurrence of gold and silver in the Wichita Mountains."



Figure 20 (question 55). Headframe of gold mine in Wichita Mountains. Thousands of prospectors explored the Wichita Mountains for gold between 1901 and 1907, and more than 2,500 prospect shafts and adits were dug. Assays as high as \$3,000 per ton were reported, but in fact, little if any gold was ever discovered in the Wichitas. (Photograph courtesy Western History Collections, University of Oklahoma Libraries.)

Gold is exceedingly rare in Oklahoma because the geologic environment in which gold typically forms never occurred in the State. Most gold deposits in the U.S. fall into three broad categories: (1) those associated with Precambrian greenstones, such as that at the Homestake Mine, Black Hills, South Dakota; (2) those that formed at shallow (0.5 to 3 miles) depths and relatively low temperatures (350°–500°F) and associated with Cenozoic magmatism, such as at Carlin, Nevada; and (3) those associated with quartz veins in metamorphic rocks in a convergent plate-tectonic setting, such as the Mother Lode in California.

56. Have diamonds ever been found in Oklahoma?

No, despite a public diamond-collecting area nearby in Arkansas.

Diamonds have never been found in Oklahoma. "Kimberlite pipes" are the most important source for diamonds, and no such pipes have been identified in the State. Kimberlite is an igneous rock that contains minerals derived from deep in the Earth's crust or upper mantle. A pipe is the vertical conduit below a volcano; it's roughly cylindrical and penetrates the crust. Kimberlite pipes typically contain highly fragmented igneous rocks, and some contain minerals, such as diamonds, that formed at high temperatures and pressures. A secondary source of diamonds is the material eroded from kimberlite pipes and transported elsewhere by moving water; these kinds of diamonds are called "alluvial diamonds."

In contrast to Oklahoma, diamond-bearing pipes do occur in neighboring Arkansas. Crater of Diamonds State Park near Murfreesboro is located on a lamproite (related to kimberlite) pipe, and the public is allowed to collect diamonds there. Some geologists estimate that the diamonds at Crater of Diamonds formed at 3100°F and 60 miles deep. The Arkansas Geological Commission (Appendix 1) has much information on the geology of the park and the origin of the diamonds found there.