

DIAGRAM MAP PREPARED

A block diagram map showing the relative age of surface and underground rock in Arkansas is being printed and will be distributed to Arkansas schools. Dr. George C. Branner, state geologist, announced yesterday. The diagram, which can be used in geological studies of the state, is drawn in strong colors to make the various geological ages stand out.

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**A Big Show In Arkansas Some Millions of Years Ago.**

The Paricutin volcano burst forth within sight of the Mexican landowner, but when the volcano in what is now Pike county, Arkansas, erupted there wasn't a soul to see or hear it. Fortunately volcanism causes no trouble in our state. The upheaval in the geology of the Arkansas region took place millions of years ago while the monster reptiles were having their last big fling.

Previously, during the Carboniferous or Coal Age, subterranean movements warped and folded beds of shale and sandstone through a vast area embracing the present Pike county. Geologists believe that in the following or Lower Cretaceous period the elements wore these ancient rocks down almost to a plain. Marine waters covered most of the southern part of the continent, and the coastline was irregularly broken by bays. One great bay extended around the southern side of the Ouachita mountains, which were then quite high. But erosion attacked the mountains, and the sediment, which was carried into the bay, formed beds of sand, clay and sandstone. The land tilted more toward the south at the beginning of the Upper Cretaceous, and the seas became more extensive. One arm of the bay that skirted the Ouachitas stretched as far as what is now Southern Illinois.

It is believed that the twisting and straining resulted in the opening of the Pike county volcano. Hugh D. Miser and Clarence S. Ross, geologists of the United States Geological Survey, don't think that much lava was extruded, but they say in their report, "Diamond-Bearing Peridotite In Pike County, Arkansas," that the explosions must have been tremendous. The blasts broke a crater through the older formations, shot stones and ash into the air, and liquid rock rose in the vents and cooled. Rocks on all sides were changed on contact. Peridotite, the diamond-bearing material,

filled crevices in formations laid down in earlier seas.

Tuff, a fine volcanic rock, and other debris have been found in marine deposits in Pike county. Carle H. Dane says in his "Upper Cretaceous Formations" that these beds must have been in shallow water near the coastline, but the cross beds of gravel and sand indicate strong currents. He reported clay beds sometimes having charred wood remains.