



Figure 8. Structural section of Verde graben.

View is to the northwest with coverage from the Copper Chief mine area south of Jerome to the Dry Creek Bridge area on Highway 89A to the southwest of Sedona. Undifferentiated Precambrian basement rocks are shown in pink. On the western margin of the Verde Valley detailed surface mapping and seven 1973 and older mineral exploration drill holes show that the Verde fault system has dropped the western margin of the graben by a minimum of 6100 feet (1860 m). Even deeper displacement is projected further into the valley based on gravity surveys. Hickey Basalt was penetrated in Hole AV-73-12 and has been recently age dated at 14 Ma (Ed Dewitt, USGS, personal communication).

Similar graben faults and drill hole information on the Sedona margin of the Verde graben to the northeast show similar displacement. The Bear Wallow, Dry Creek, Page Springs and Sheepshead faults offset 12.8 Ma Cathedral basalt of House Mountain-age, including underlying Beavertail Gravels and all older stratigraphy. Mapping and drill hole evidence shows conclusive proof that the Verde graben is a closed structural basin and not a river-carved valley. The Mogollon Rim escarpment was formed by retreat into the Colorado Plateau from erosion of the Dry Creek and nearby graben fault scarps.

Miocene-Pliocene Verde formation gravels and lake beds fill the Verde graben. During the Quaternary Period the Verde River developed as a south flowing river that has eroded the topmost layers of the Verde formation to its present elevation.

Horizontal Scale:



Vertical Scale:

