

OROGENIC DEVELOPMENT OF THE CEDAR HILLS, UTAH

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ABSTRACT

The Cedar Hills occupy an area of about 320 square miles in central Utah between the northern end of the Wasatch Plateau and the southern end of the Wasatch Mountains, in the boundary zone between the Colorado Plateaus and the Great Basin. The area is underlain chiefly by Upper Cretaceous and Tertiary continental sediments many thousands of feet in thickness, which are overlain unconformably by pyroclastic rocks of probably late Tertiary age in part of the area. A thick tongue of fossiliferous marine sandstones in the Cretaceous show that part of the beds, at least, are of Colorado age, and helps to date the older recognized orogenies. The lower part of the thick Cretaceous section consists of coarse conglomerates. These overlie Jurassic shales, and indicate the uplift of mountains somewhere to the west of the Cedar Hills. A second group of conglomerates, overlying the tongue of fossiliferous sandstones, indicates the second orogeny. These two orogenies occurred approximately in middle Cretaceous time. The first orogeny directly affecting the Cedar Hills is recorded by an angular unconformity of 40° to 50° in strike between the upper Colorado and the upper Montana rocks, and therefore occurred during Montana time. The southern end of the Wasatch Mountains, which are adjacent on the west, was folded and overthrust in this orogeny. The next orogeny resulted in the folding of the formations of Montana and Paleocene age, and may have tilted rocks of middle Eocene age. It cannot be dated as closely as the preceding orogeny, but can be assigned approximately to mid-Tertiary time. The last orogenic movements recorded in the area are normal faults thought to belong to the Basin Range disturbance.