



**ADVANCE NOTES ON THE GEOLOGY OF THE CIMARRON
VALLEY OF WESTERN OKLAHOMA**

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The area with which this paper is concerned consists of about twenty townships along Cimarron Valley in Cimarron County, Oklahoma. The study of the geologic problem of the area was undertaken because of the discovery of dinosaur bones in rocks of Morrison age which had not been previously mapped. To date, there are six of these locations; and from

one situated on Highway No. 64, seven miles east of Kenton, about 3,500 bones have been excavated. Amongst them, there is an almost complete skeleton of *Brontosaurus* and dinosaurs of four other genera, at least one of which is carnivorous. These bones have been almost completely prepared and will be described in a forthcoming paper on the area.

Investigations by the writer have shown that the Morrison extends at least as far east as a line north of Boise City, Oklahoma; and there is some probability that it may extend even further east. The full extent will be determined by work done in the summer of 1937.

One important discovery in mapping the area has been the locating of rocks of Triassic age in the extreme northwest corner and rocks of the Colorado series on the uplands south of the canyon. Detailed sections of these rocks will be given in the paper which will be prepared when the mapping has been completed. It seems advisable at this time not to publish more than a very generalized section. It is as follows from top to bottom:

Basaltic lava flow (Tertiary)
Dakota sandstone
Purgatoire shale
Purgatoire sandstone
Morrison series
Exeter sandstone
Triassic (?) shales

This section is taken at Black Mesa north of Kenton. Two miles south of Kenton, the Colorado lies on top of the Dakota; and at that place the lava flow is absent. Throughout most of the canyon, the lowest formation is the Morrison. It is a slope producer and is found throughout the portion of the valley mapped. As a rule, however, it is covered with alluvium and weathered material. It is, of course, higher on the slopes where the Exeter and Triassic clays are exposed. A number of folds with a north-south axis have been discovered, and maps of these structures will be included in the general paper when it is published.

