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PRE- AND POST-MODELO FOLDING IN THE EASTERN SANTA MONICA MOUNTAINS, SOUTHERN CALIFORNIA

Approximately 29 years ago the author began a local regional study on the overturned folding that occurs in the middle Miocene Modelo Formation along Laurel Canyon in the hillside area of southeastern Sherman Oaks. Over this time period the study required the revising of several working hypotheses.

The acceptable geologic model for the study area consisted of north dipping beds planes on the north flank of an anticline. However, within the study area bedding planes either dipped so the south at steep angles or there were areas of multiple folds. Over time the study area was extended to include both pre Modelo and post Modelo folding within the eastern Santa Monica Mountains. Numerous geologic maps were also compiled by the author at a scale of 1" = 100' extending the range of the study area.

Thus the study area became centered along the left-lateral Benedict Canyon fault zone. New geologic data was generated and collected within the study area during grading operations of either new residential developments where there were numerous exposed rock outcrops or from the data that was obtained from large diameter borings made during the exploration phase of deep and shallow slope failures located within the study area.

Recent geologic mapping provided the additional information vital to provide answers to the original geologic question of the local reverse folding. The area of reverse folding that initiated the study occurs both in pre and post Modelo rocks that are located to the north of the maximum bend of the Benedict Canyon fault, where the bend in the fault took place around a dense body of an intrusive Cretaceous quartz diorite.