

PROBLEMS OF NOMENCLATURE IN THE STRATIGRAPHY OF SOUTHERN MISSISSIPPI

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ABSTRACT

Geological work in the vicinity of Tatum Dome, Lamar County, Mississippi, for Project Dribble of the Vela Uniform Program of the Atomic Energy Commission (which concerns the seismic detection of underground nuclear explosions), has involved deciphering the surface and subsurface stratigraphy of an area within a 25-mile radius of the dome. On sonic logs of wells drilled for oil, zones of similar velocity characteristics were found, as anticipated, to correspond very closely to stratigraphic units used by oil geologists. In the course of compiling stratigraphic information, however, it was found that some of the names in common use do not conform to the rules of stratigraphic nomenclature, and some are awkward or cumbersome. An attempt is being made to find acceptable names that will apply to this portion of Southeastern Mississippi, and, in some cases, to a much larger area.

Covering a large part of southern Mississippi is a gravelly sand, a high terrace, that has been called the "Citronelle" formation. The name "Citronelle," however, has been applied to two different formations, one composed of shallow marine and littoral deposits at the designated type and reference localities, and the other the gravelly sand which unconformably overlies these strata. The problem is: to which formation does the name apply?

A thick section of non-marine to marine interbedded clays and sands that have been called Pascagoula clay and Hattiesburg clay covers and surrounds the dome. No satisfactory boundary between these formations has been found. The differences in facies between them may be due chiefly to the differing distances from the shoreline at which the sediments at their designated type localities were deposited, and the two may actually belong to the same formation.

The Catahoula formation is difficult to distinguish from the overlying Hattiesburg clay, but an important limestone of the "*Heterostegina* zone" has been included in it, at or near its base. A new name is needed for this lithologic unit, and its age, whether Oligocene or Miocene, must be established.

Beneath the limestone called "*Camerina*" limestone by some geologists, here correlated with the Cook Mountain Formation, is a thick section of clay and silty clay correlative with the Sparta Sand. Should the term "Zilpha Clay," which applies to a formation that the Sparta conformably overlies or with which it is interfingered, be used to designate the pre-Cook Mountain clay?

Some units of the Wilcox group of the surface can be traced downdip, but the boundaries of these units are ill-defined. The Wilcox of the subsurface includes some sandy beds near its base that are presumed to be of Paleocene age. The age of the Salt Mountain limestone, a unit generally considered to be part of the Wilcox group, has been questioned. It is usually assigned to the Eocene, but has also been called Paleocene.

The basal massive sand of the Upper Cretaceous has never been properly named. A satisfactory name and type locality (in a well) is needed.

The chiefly non-marine beds, termed Dantzler Formation by some, that immediately underlie the Upper Cretaceous, are considered to be a local facies by others. Do they constitute a formation?

A satisfactory name or names and type section (in a well) is needed for the chiefly marine beds commonly designated "Washita-Fredericksburg."

Some questions still remain concerning the age and correlation of the Louann salt.

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