

# COST CONSCIOUS GEOLOGY

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## ABSTRACT

The most valuable and least expensive tool used in exploring for oil is the time of a trained, creative exploration geologist. Unfortunately there are times when a geologist's job becomes so structured that he spends less time looking for oil than he would like. Ultimately we, as a profession, will be judged on whether we can find reserves of oil at a price per barrel less than the market price. In spending geological man hours, we must be acutely aware of costs and responsibility accounting. We must adapt our thinking to a principle of "reserve centered" accounting so that each unit of exploration is held accountable for finding reserves of oil at a reasonable price. With the tremendous demand for energy that our country now faces, it is more important than ever that we search for ways and means of getting the maximum creative effort from each geologist.

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# COMPUTER MAPPING IN LOWER FRIO FORMATION (OLIGO-MIOCENE), SOUTHWESTERN LOUISIANA<sup>1</sup>

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## ABSTRACT

The usefulness of a computer in mapping the complex structure and stratigraphy of the Oligo-Miocene of the Gulf Coast has been questioned. During a regional study of the lower Frio by Paine, Meyerhoff, and Furrer, the writer had an opportunity to computerize the data used for the study (hand-contoured maps), and to produce a set of computerized maps from the same data. Four sandstone isolith maps, 1 isopach map, and 1 structure map of 1 zone were constructed, as well as 4 isopach maps and 4 structure maps of other zones.

The computer's sandstone isolith map of the *Nodosaria* "A" sandstone showed a marked difference from the hand-contoured map, because the writer had introduced a major distributary system into the eastern half of the area. The computer plotted this distributary system as a series of east-west, elongate, barlike bodies parallel with (1) thinner sandstone bodies in the western part of the area and (2) the shoreline of massive continental sandstone bodies on the north. In the growth-fault area of the *Nodosaria* embayment, computer maps and handmade maps are very similar.

The structure maps show less similarity. Only the large regional faults and the large domes appear on the computer maps. Smaller faults and closures do not appear on the computer maps. The differences between shallow and deep structure are evident on both the computer and hand-contoured maps.

This study revealed that computer maps are useful in stratigraphic work — both on regional and local scales. For structural work, the computer maps are less useful, but do reveal major features. The great number of maps which the computer can produce in a short time is an obvious advantage. Clearly, the geologist's prejudices are reflected in the computer output. The writer strongly recommends the use of computerized maps in studies of Gulf Coast geology.

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