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Donald I. Andrews, Associate w/Rodgers, Seglund and Shaw

# INDIGENOUS PLEISTOCENE PRODUCTION IN OFFSHORE LOUISIANA

by

Donald I. Andrews

## ABSTRACT

Pleistocene sands with sizable reserves of indigenous gas and oil are being found off the coast of Louisiana. In addition to having reservoir characteristics similar to those of the prolific Pliocene and Miocene sands, these Pleistocene sands are also comparable in that they continue the general offlap southward and cyclical pattern of transgressive-regressive deposition developed further offshore than do the older beds. Due to offshore deep-water drilling problems most known Pleistocene reserves are concentrated near the Mississippi River delta. However, improved drilling equipment is enabling operators to drill further offshore in deeper waters and this will substantially increase the known Pleistocene reserves.

Other Pleistocene beds in the United States have produced oil and gas. However, in most instances these other beds are believed to be producing oil and gas that has seeped into them from older beds.

Many Gulf Coast stratigraphers have worked on correlations between the updip alluvial Pleistocene surface deposits and their downdip subsurface marine facies equivalent. Some of this previous work is discussed herein and a stratigraphic chart is presented to illustrate some of the more recent conclusions. Correlations within the Pleistocene and also the distinction between the Pleistocene and older beds are generally very difficult.

During the Pleistocene period tremendous quantities of water were evaporated and withheld from the oceans. Major fluctuations of sea level occurred as great masses of glacial ice formed and then melted. Prior to Pleistocene time the marine Tertiary depositional cycles in the Gulf Coast were caused primarily by intermittent subsidence in the Gulf Coast Geosyncline. During Pleistocene time, however, the marine transgressions and regressions in the Gulf Coast were a composite of the melting-freezing cycle and the tectonic cycle.

Some authorities suggest that petroleum accumulations within the marine Pleistocene may not be indigenous to those beds, primarily because of their young (approximately one million years) age. Although some shallow massive Pleistocene sands on updip salt domes do appear to have petroleum accumulations as the result of seepage from older beds, the author believes the accumulations in the deeper marine Pleistocene sands to be indigenous to those beds. Many of the latest studies of Recent sediments, together with those on the origin, migration and accumulation of oil, do not discount the probability of an indigenous Pleistocene origin.