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Geopressure in Houma and Hollywood Fields, Louisiana

The Houma and Hollywood fields comprise one of the largest gas and gas-condensate producing areas in Louisiana. Three zones, the hydropressured *Bigenerina humblei* and Krumbhaar sands and the geopressured Southdown-Hollywood sands, are responsible for estimated ultimate recoveries of 30 million bbl of condensate and 2.5 Tcf of nonassociated gas.

The Hollywood shale forms a geopressure seal 1,200 to 2,000 ft (360 to 600 m) thick over most of the area. Pressure differentials between the Krumbhaar and Southdown-Hollywood sands range from 3,700 to 7,200 psi (25,512 to 49,644 kPa).

The Houma-Hollywood field area is characterized by apparently large volumes of fluid escape from the geopressured zone. The higher than normal temperatures and low salinities at the base of the hydropressured zone provide evidence for this proposed leakage. The routes of fluid escape are numerous and are associated with the large growth faults of the area. The fluid-escape paths are identified by the use of structure, temperature, and salinity maps.

The absence of deep wells in parts of the study area and the uncertainties of the log-derived temperatures and salinities may produce some uncertainties in the interpretations. However, our observations are consistent with predictions based on the present theories concerning geopressure processes.

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Stratigraphy and Paleoecology of Tamiami Formation in Lee and Hendry Counties, Florida

The Tamiami Formation in southwest Florida is a complex succession of shallow-water, predominantly marine sands, clays, and limestones of late Miocene to Pliocene age. This succession has been studied in 26 wells in Lee and Hendry Counties, Florida, where lithologic and micropaleontologic analyses indicate deposition under rapidly shifting nearshore environments, perhaps the result of eustatic sea-level fluctuations correlative with Southern Hemisphere glaciation. Despite the relatively sharp facies changes within the sedimentary complex, geologic cross sections show the persistence of some sharply contrasting limestone and clay units which can serve as a basis for correlation. Other aids to correlation include a distinctive diatom bed within the latest Miocene clay unit and the establishment and use of local benthic foraminiferal assemblage zones.

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Variations in Littoral Sand Features with Special Reference to Washover Forms on Caminada-Moreau Coast, Louisiana

Much documentary evidence (maps, aerial photographs, special surveys) exists by which the historical retreat of the Caminada-Moreau, Louisiana, beach coastline can be measured. Retreat is constantly producing new beach and related landforms. The two main processes are washover and eolian sand movements. Repeated surveys along fixed lines have identified appreciable differences by which sand encroaches on different types of landward surfaces such as marshes, old distributary channels, lakes, tidal lagoons, and man-made features (pipeline canals). Tidal change, wave action, wind strength and direction, and vegetation are the main factors that produce variations in the sand features, but the forms of the preexisting reception surface are also important. Some estimate of the effect of severe storms or hurricane activity can also be made by correlating climatic records, aerial photographs, and older landforms. Small-scale surface characteristics are produced by rain wash, and lake- and bayou-margin wave effects.

Several physiographic situations are repeated along the 19-km-long coastline: wide flat washover beaches, concentrated washover splays, microcliffs in old dunes, active dunes, and stabilized dunes. Some of these differences can be related to the presence or absence of an organic silt (old marsh) platform in the intertidal zone, whereas other features seem to be related to systematic longshore changes operating between Caminada Pass and the Fourchon outlet of Bayou Lafourche.

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Living Foraminifers of West Flower Garden Bank, Northernmost Coral Reef in Gulf of Mexico

At West Flower Garden Bank, on the outer Texas-Louisiana continental shelf, 104 species of living benthic foraminifers representing 73 genera were found in sediments and on hard substrates collected from the submerged coral reef and biostrome. Three habitat associations can be recognized. (1) An association of abundant sediment-dwelling species is formed by *Cassidulina* sp., *Loxostromum limbatum* forma *costulatum, Peneroplis proteus, Pseudomassilina* (?) sp., *Quinqueloculina* sp. A, *Q.* sp. B, *Rosalina* sp. B, and *Rotaliammina trumbulli.* (2) An association of abundant hard-substrate-dwelling species is formed by *Carpenteria utricularis, Carterina spiculotesta, Gypsina plana, Homotrema rubra, Planogypsina squamiformis, Planorbulina acervalis, Planorbulina mediterranensis, Planorbulinoides retinaculata, Rotaliammina squamiformis,* and *Sporadotrema cylindrica.* (3) An association dwelling in abundance both in the sediments and on hard substrates is formed by *Amphistegina gibbosa, Eponides repandus, Miliolinella circularis, Neoconorbina orbicularis, Spirillina vivipara,* and *Tretomphalus atlanticus.*

Only 17 (16%) of the West Flower Garden Bank species are endemic to the Gulf of Mexico; 83 (80%) occur elsewhere in the Caribbean; and 53 (51%) also occur in the tropical Indo-Pacific. Thirty-two species (31%) are reported for the first time from the Gulf of Mexico, and 12 species (12%) are newly reported from the north-