Paleogene Palynology of the Great White Field in the Deepwater Western Gulf of Mexico

Vann Smith[1]
[1]Louisiana State University, Paleontology, Baton Rouge, LA USA
vannpaleo@gmail.com

ABSTRACT

During the Late Paleocene and Early Eocene, a large influx of clastic supply to the Gulf of Mexico related to the Laramide uplift in the continental interior formed the Wilcox Group sediments. Offshore, these sediments were deposited in basin floor fan systems with thick sands. These Wilcox Group sands have proven to be important hydrocarbon reservoirs in the deepwater Gulf of Mexico. Unfortunately, calcareous microfossils are generally rare and poorly preserved in the deepwater Wilcox. Palynological biostratigraphy offers an alternative zonation for well correlation and chronostratigraphic interpretation. The palynology of the Wilcox Group is well known from surface outcrop and onshore subsurface wells, but no previous published studies have examined the palynology of the deepwater Wilcox. This study will analyze the palynology of the Wilcox Group and overlying Paleogene strata from a deepwater exploratory well drilled by Shell in the Perdido fold belt (AC 857 #1). Drill cutting samples at 158 depths will be processed for palynological analysis. Quantitative palynomorph abundance counts will be compared with lithological data and calcareous microfossil biostratigraphy made available through the Bureau of Ocean Energy Management (BOEM). In addition to the biostratigraphic applications, quantitative analysis of pollen, spore, and dinoflagellates abundances will be used for paleoclimatic interpretation of the lower Paleogene section in this well.

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