PROVENANCE OF THE UPPER JURASSIC WOOD RIVER FORMATIONS FROM THE EASTERN GULF OF MEXICO: INSIGHT FROM U-PB DETRITAL AND WELL LOGS

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Triassic and Jurassic sediment within the Eastern Gulf of Mexico (EGOM) record the initial breakup of Pangea and the opening of the Gulf. As rifting occurred, sediment was fed into the basin through a series of paleo-highs. Provenance studies can help delineate potential sources and sediment pathways for sediment within the gulf. Previous studies have focused on the Norphlet Formation, a clastic sandstone in the northern EGOM that contains abundant natural gas. The extent of the Norphlet and other Jurrasic sediments further south into the EGOM is poorly understood. In southern Florida, the basal clastic section at the base of the Wood River Formation roughly correlates to the same age as Triassic and Jurassic sediment in the northern EGOM. The Wood River has been discussed as a potential hydrocarbon bearing source rock, but detailed studies still need to be done. This study will focus on a detailed provenance study of the basal clastic section of the Wood River Formation using U-Pb detrital zircon geochronology, well logs, and thin section petrography. This project will determine potential sources and sediment pathways of the basal clastics. Thin section petrography and well logs will consider possible reservoir potential of the Wood River. Based on the provenance signature, the Wood River may possibly be correlated with sediment in the northern EGOM. This will provide insight into how spreading within the EGOM may have occurred after the breakup of Pangea.

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