

MDEQ Office of Geology staff have been visiting a geological and paleontological playground in Smith County, Mississippi for years. The Smith County Lime Pit has been a useful window into the Lower Oligocene Series and specifically the Vicksburg Group. The Lower Oligocene encompassed a time period from 34 million years before present to 28 million years before present. The formations that are present for this time period in the strata at the Smith County Lime Pit are the Forest Hill, Mint Spring, Marianna Limestone, Glendon Limestone, and the Bucatunna. These formations represent one of the last great sea level rises in Earth's history. The Forest Hill represents a deltaic environment that was followed by the Mint Spring, Marianna, and Glendon when a shallow tropical sea covered this area. The Bucatunna occurs last in this sequence representing the fall in sea level and a deltaic environment once again.

Members of the Mississippi Museum of Natural Science and MDEQ staff hosted students from the University of Southern Mississippi's historical geology classes at the Smith County Lime Pit. This is one of many trips that MDEQ staff have taken over the years for collection purposes and to guide university and junior college geology students through the Oligocene stratigraphy and fossil fauna of Mississippi.

There were some interesting finds on Friday. A collection of about 100 assorted shark teeth were found by the 13 students. A very common palm sized crab carapace known as *Necronectes vughani* (<https://twitter.com/mdeq/status/1088868063754309638>) was found. A few of the interesting specimens were collected by Paul C. Parrish and were donated to the museum. One of these was an early Oligocene sand dollar known as *Clypeaster rogersi* (top right). In the picture you will notice that the pentameral symmetry extends to the outer edges. Most of the specimens that have been found in the Smith County Lime Pit have been circular with interior pentameral symmetry. Other specimens of interest were well preserved ghost shrimp burrows in the Marianna limestone (left side of the right middle). Several of these have been found before with a much smoother exterior leading to the thought that they might be a preserved sponge species. George Phillips believes that this new burrow may be the missing link proving that these are ghost shrimp burrows. One can see that the new one shows more of the preserved mud ball/rings that are more typical of burrows. At bottom middle is the clam *Agnocardia glebosum*, and a nice specimen in matrix of *Thracia vicksburgiana* (lower right)