

## Mound Confirmation at 41UR30: Analysis of Elemental Profiles from Sediment Cores at the Boxed Springs Site

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Boxed Springs (41UR30) is an Early Caddoan (ca. 1100 – 1300 CE) archaeological site in Upshur County, Texas. The Caddo people would build mound structures for culturally significant reasons. The initial investigation at Boxed Springs discovered four mounds which were eventually destroyed. Research conducted at Boxed Springs in 2019 found an anomalous region, via ground-penetrating radar (GPR), that could be a rediscovery of one of the four mounds (Mound B). As the first test of its kind in archaeology, this research involves the analysis of 15 sediment cores (n=15) taken from Boxed Springs Site by using X-ray Fluorescent (XRF) and Laser Induced Breakdown Spectroscopy (LIBS) to find evidence of a mound. By conducting a quantitative analysis on aluminum, as a proxy for phosphorus to determine the presence of anthrosols, we found that at lower depths the data suggest the presence of a feature – whether or not it is a mound more research is necessary. This project is part of ongoing research at the Boxed Springs site.