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The Fort Davis Archaeology Project (FODAAP) is a multi-year historic archaeology project based in the town of Fort Davis, Texas directed by Katrina Eichner, Erin Rodriguez and Laurie Wilkie. The post was constructed in 1854 to provide protection from Apache and Comanche raids for travelers headed west to the gold rush. Primarily abandoned during the Civil War, during the reconstruction period the Fort housed several companies of African American “Buffalo Soldiers” along with primarily white officers. Along with the military post, three civilian towns composed of multiethnic residents of recent European immigrants, pioneers, and Mexican-American families developed adjacent to the Fort. The fort was abandoned in 1891, but the civilian community continues to the present day. In 1961 the fort became a National Historic Site as part of the National Parks Service. During field season 2014 FODAAP excavated at three locations on private land in the town of Fort Davis. Geoarchaeological samples from two of these sites were analyzed using funds from a 2015 Stahl grant. Preliminary results from microscale geoarchaeological analyses of samples taken from these sites (the Francell-Byerley property and the Smith-Carlton Casa Vieja) will be discussed below.

Microscale geoarchaeological methods include a wide range of approaches focused on analyzing sediments and soils at the microscopic level. This includes physical soil analyses such as color, particle size analysis, and bulk density; chemical analyses such as pH, phosphate analysis, and heavy metal concentrations; and soil micromorphology, which is the focus of geoarchaeological work at Fort Davis. Micromorphology is the microscopic analysis of undisturbed blocks of sediment to look for microstratigraphies, activity traces, and features of post-depositional processes which can affect archaeological contexts.

In 2014 FODAAP excavations at the Francell-Byerley property included a surface artifact scatter dating to the 1880s, a depression-era midden, and a collapsed structure. Micromorphological analysis of the midden has focused on resolving the complex stratigraphy uncovered during excavations. This stratigraphy is a combination of many individual dumping episodes, post-depositional alterations through bioturbation and water action, as well as in-situ burning. Trash appears to have been primarily burnt before dumping, with a single instance of possible in situ burning. Anthropogenic components of midden contexts include glass, metal (as well as leaching of iron from metal fragments into the soil fabric), bone, ash, eggshell, and ceramics.

The second site from FODAAP’s 2014 excavations which has been analyzed is the Smith-Carlton “Casa Vieja” (Figure 1). The “Casa Vieja” is the oldest continuously occupied structure in Fort Davis. It was built as a single floor adobe in 1873 by Archie Smith, a retired Buffalo Soldier, who lived there with his Hispanic wife. His wife was Catholic, and since there was no church in town Smith built an open air breezeway with a vaulted ceiling at the north end of the house where Catholic services were held. In 1911, the property was purchased by Emmett Carlton who built a new house on the property and used the enclosed part of the structure as a hay barn. The home was restored (and the chapel room enclosed) in the 1970s and was occupied by Don and Vida Carlton. Recently it is used seasonally as a residence for the extended Carlton family while they are in Fort Davis. In 2011 a wildfire burned through the property
which razed many outbuildings and left deep burn marks on trees in the yard. In 2014 the structure was recognized as a Texas State Historic Landmark. The extended Carlton family has been very happy to have FODAAP investigating the property.

A microstratigraphic sequence was recovered from three thin sections of samples taken from near the front door of the current house (what would have been the open air chapel). Although very few artifacts were recovered from this unit (or any of the four units placed at the Casa Vieja), the micromorphological analysis details the life history of the house (Figure 2). Gaps between slides are currently unaccounted for, but the majority of boundaries between strata observed in the field are included.

The lowest bed (seen at the base of Figure 2) is a trampled and maintained occupation surface with sparse inclusions of anthropogenic components such as charcoal and plaster. There is a low presence of organic matter within the surface bed, with a higher degree of organic material (mostly insect excrement with some unburned plant tissue, but no phytoliths) in the void space between the surface and the overlying unit. The overlying unit is highly compacted by carbonate development and includes very little organic matter and no evidence of bedding. This low incidence of organic material within the lowest bed (the surface) would suggest that this layer relates to the chapel rather than the hay barn. While the main enclosed portion of the structure was used to store hay after the property was purchased by Emmett Carlton, this area would still have been an open air breezeway and probably not ideal for storing hay against the weather. From the micromorphology it appears that this area may have fallen into disuse leading to the accumulation of sediment over the chapel surface.

The middle slide shows a period of constant use and occupation which is indicated by finely laminated horizontal bedding visible at low (4x) magnification with no inclusions of organic matter or other anthropogenic components. Comparison with oral history would suggest that this is the period of occupation by Don and Vida Carlton after the structure was renovated in the 1970s. The open air chapel room would have been enclosed and this location would now be the front door of the structure rather than a disused open air room. Constant trampling and sweeping of Aeolian sediments would produce the fine laminations seen in the micromorphology.

The top slide shows several cycles of seasonal usage. This is indicated by the accumulation of unorganized Aeolian sediment with no internal bedding or horizontal laminations which is then trampled into a surface when the structure is again occupied. The discrete accumulation of Aeolian charcoal with no evidence for in situ burning or ash is most likely from the 2011 wildfire that burned through the property. These beds can be correlated to the modern seasonal usage of the structure by the Carlton family.

In conclusion, geoarchaeological analysis of FODAAP material is ongoing. As most contexts excavated by FODAAP are very shallow with little to no visible macroscopic stratigraphy, this work will be essential in developing a better understanding of depositional sequences throughout FODAAP’s excavations. Additionally, our 2015 field season resulted in approximately 60 micromorphological samples and 400 bulk samples from residential contexts at Fort Davis National Historic Site. Analysis of these samples as well as remaining sample from the 2014 field season is ongoing.
Figure 1. Smith-Carlton “Casa Vieja”
Figure 2. Thin sections from Casa Vieja showing a microstratigraphic sequence relating to the life history of the house.