Introduction

This research aims to use ignition (LOI) of soil samples to differentiate the house floors at the Redtail site, a Late Woodland archaeological site in the upper Yadkin River Valley (31YD173). Researchers have uncovered evidence of a single occupation of an residential structure known as Redtail 1 and have reported findings on ceramic and lithic artifacts. We are utilizing this data to understand the spatial organisation of the site as a whole and to distinguish the house floors from other enclosures.

During the summer of 2017, we collected sediment samples from three localities identified as house floors: Redtail 1, Redtail 2, and Redtail 3. We are comparing the sediment samples from these localities to sediments that were taken from the same locities during excavations in 2015. Our goal is to use these comparisons to identify differences in the organic content and to determine whether these differences are from differing house floors or just different areas of the same house floor.

Methods

During the summer of 2017, we excavated 31YD173's house floors and collected sediment samples from three localities: Redtail 1, Redtail 2, and Redtail 3. The samples were taken from different excavation units within each of these localities. We used a 1/16" mesh screen to separate the organic material and then compared the oven-dry samples from each of these localities. We then used a high-temperature oven to measure the weight loss of the sediment samples. We calculated the percentage of organic content by weight.

Results

Redtail Locality 1 Housefloor

Locality 3

Locality 2

Locality 1

Locality 2

Fig. 5: Sediment and patterns recovered in Redtail locality 1.

Fig. 6: Comparison of artifact counts between localities

Discussion

The lack of postmolds and the high number of artifacts recovered at the sample unit at locality 3 could represent various occupations, rather than different components of the same structure. We see two possible interpretations at this point: the house in locality 2 was occupied for a shorter time than the one in locality 1, or the housefloor organic levels may be relative to surroundings and not absolute values. For example, if excavation units in this area may uncover a similar pattern as seen in locality 1. That said, the lack of postmolds in the sediment samples from locality 3 is consistent with a lower organic content. However, this research is able to confirm that there are great locations for future excavation and study, especially given potential sites in the upper Yadkin River Valley along the Late Woodland Period as they potentially represent areas of prehistoric cultural activities. In addition, studying the development of ceramic manufacturing at the site could provide important insights into the development of these areas as they are compared to other sites in the region.

Conclusion

The lower organic content, lack of postmolds, and much higher artifact concentration in locality 3 are seen in other valleys—we also do not have much evidence for what settlements are like. This is consistent with similar conditions in many areas of the valley. The lack of postmolds and the high number of artifacts recovered at the sample unit at locality 3 is consistent with a lower organic content. However, this research is able to confirm that there are great locations for future excavation and study, especially given potential sites in the upper Yadkin River Valley along the Late Woodland Period as they potentially represent areas of prehistoric cultural activities. In addition, studying the development of ceramic manufacturing at the site could provide important insights into the development of these areas as they are compared to other sites in the region.

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